

MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

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Manufacturers' Record.

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BALTIMORE, NOVEMBER 4, 1898.

Effects of Advertising.

In a letter to the Manufacturers' Record, the Wisconsin Machinery Co. writes as follows:

We received on October 12, of the Burgess Steel and Iron Works, of Portsmouth, O., an order for our large planer and radial-drill press, which we had in the works at West Duluth, Minn. This plant was known as the Marinett Iron Works, and we became the owners of it some few months ago. This was probably the largest planer in the northern part of the State, its size being 8x8x24, and weighing in the neighborhood of 70,000 pounds. We expect to ship this machine by the 28th of this month. We wish to state that these people saw this machine advertised by us in your paper.

This is an illustration of the benefits of advertising in general, and specifically, of advertising in the Manufacturers' Record.

Another example of this principle is given in the El Paso (Texas) Times, which prints a letter from a firm of capitalists in one of the largest Eastern cities with the following explanation:

The Times' first article on the electric street-car question is bearing fruit. Readers of the Times will remember that the article was reproduced in the Manufacturers' Record, which has a large circulation among capitalists who invest money in railroads and all kinds of industrial enterprises. Several communications have been received from Eastern promoters who have read about the need of a perfect electric street-railway system in this city.

For many years the Manufacturers' Record has been doing just the kind of work as that indicated in the Times' article, calling attention to the projects of development in Southern communities, and endeavoring to bring the promoting capital into touch with necessities and opportunities. It has encouraged Southern communities to give publicity to their desires through its columns, and shall continue to do so, for the Manufacturers' Record is conducted upon the principle that advertising is necessary to success.

The executive committee of the International Union of American Republics has continued Mr. Frederic Emory as provisional director of the Bureau of American Republics. To the work of that bureau Mr. Emory has brought the zeal and energy which have increased the value of the publications of the Bureau of Foreign Commerce of the Department of State. The work of the two bureaus are somewhat akin, and it could not be placed

in better hands than those of Mr. Emory.

To Redeem a State.

In the bitter political contest now waging in North Carolina—a contest upon which hangs white supremacy or negro domination—it is gratifying to know that the thousands of white republicans from other States, who have of late years settled in North Carolina, are standing by the democrats. By the side of possible negro control all other questions, be they finance, tariff or expansion, sink into insignificance. Men can live and do business under protection or free trade, gold or silver, but the white man—the Anglo-Saxon—cannot live in peace and safety with his family in a country where negro domination is even threatened. The people who love the negro—while at a distance—soon learn to appreciate these facts whenever they are brought into close contact with him. The negro is a good workman in his place, and when in the minority he is generally tractable, well-behaved and to some extent moral, but given any power or prominence he becomes his own worst enemy and the worst enemy of the community, knowing neither legal nor moral restraints. The Anglo-Saxon race cannot and it will not suffer the negro to rule. Theorists may prate to their hearts' content against this dogged determination, but their theories avail nothing.

The white people of the South are going to control and rule that section, and any political party which seeks to uphold the negro as against the whites is knowingly doing the negro a great injustice, and is doing it for the purpose of creating trouble. It may be well that this issue is to be fought out in North Carolina. That grand old State, conservative and yet progressive, with a reputation well earned for the law-abiding qualities of its people and for the protection of life, is probably in a better position to make this final fight than any other State. Its established reputation will convince the world that its people are moved by some imminent peril, and its industrial progress has been so great that outsiders will be less influenced against the State by the heat of this contest than they might be as to some other States. Moreover, North Carolina has probably received more settlers from other States than any of its neighbors, and the fact that they have joined the local whites against the combination of negroes and those who are making tools of the negroes will prove to the world the righteousness of the white man's cause.

The conservatism, intelligence and progressiveness of the country await with some anxiety the outcome of the present campaign. For the past two years the Old North State has been at the mercy of reckless, if not criminal, demagogism, carried into power and supported by the ignorance and irresponsibility of negroes. These conditions have their prototype in the horrible days of reconstruction. Fortu-

nately, the earlier ills have not been duplicated in all their intensity. The evil, however, has been sufficient to give the State a setback and to mass in opposition to a continuance of the curse the best people of all parties, democrats, republicans and populists alike. White men of all parties have determined to make impossible the continuance or extension of this evil. That they will do it no one who knows North Carolinian character doubts. In the solution of the problem it is to be hoped that no resort to the final defense of civilization may be necessary, and it should be remembered that the negro is less responsible for his own misdeeds in this case than are the few white men, who, for the sake of power, are leading the negro against the whites. They are the ones upon whom the greatest blame should rest.

Railroads and People.

Railroads are run for profit. They make their best profit from the towns that grow. What is more natural than that they should help the towns that make them a profit? But a town does not grow unless it wishes to, and the town's wish, or lack of it, is the daily life of its business men. If the business men of a town have gotten into the way of pulling against the railroad on every possible occasion, of kicking vigorously about everything the road does and does not do, of viewing all its methods and motives with suspicion, of getting the best of it every time the opportunity offers, of treating it in all respects as they would treat a customer they wished to drive away, they are simply putting themselves on record with the road as not wishing the help of the road to promote town growth. Growth is by co-operation, never by antagonism. To say that unbusiness-like methods are going out of vogue in live towns is only saying that live towns are wiser in this respect than dead ones. Live business thought cannot help discovering that such a policy is as antagonistic to the town as it can possibly be to the road.

In this extract from an editorial in the Wesson (Miss.) Mirror are set forth in a decidedly practical manner the mutual interests of the people and the railroads. Neither can profit without the other, whether the people live in a town or in the country traversed by the railroad. How they may both profit may be discovered, not in petty disputes or harassments, but in calm consideration of all the facts involved. If more papers of the South would adopt the policy of the Wesson Mirror, there would be less friction between the railroads and the people.

Joint Traffic Decision.

The United States Supreme Court's decision in the Joint Traffic Association case was discounted by the earlier decision in the Trans-Missouri case. That fact probably accounts for the comparatively slight discussion of the decision. The conservative railroad men do not anticipate any great damage to the railroads because of the decision, but there will undoubtedly be a stronger movement than ever in the coming session of Congress for legislation providing for railway pooling. In a certain sense the decision ought to be of distinct benefit to the railroads. Ever

since the income-tax decision, demagogism has sought to lead voters to the conviction that the Supreme Court was merely the instrument of great aggregations of capital, and that it could be led to render decisions against the masses of the people. Here comes a decision involving the interests of the greatest aggregation of capital in the United States. The fact that great corporations have been defeated in contesting the legality of the anti-trust law has proved that the highest tribunal of the land is meting out justice according to its best light, whether the masses or corporations are immediately concerned. Viewed thus, the decision is a blow at the solar plexus of demagogism, and, consequently, a benefit to corporations and the people who suffer from the curse of American politics.

Heavy Increase in Exports of Manufactures.

A careful study of the conditions prevailing in the export movement of American manufactures will convince anyone that we have only seen the beginning of a trade which is destined to materially affect the industrial interests of the world. Machinery buyers from Europe, South America and Asia are constantly in this country making a careful study of American machinery and American-manufactured goods, and what has already been accomplished but strengthens the reputation of our manufactures. It is not unreasonable to believe that within five years the value of the exports of manufactures will equal, if not exceed, the value of the exports of agricultural products. Ten years ago the value of our manufactured products exported was only about one-fourth the value of agricultural products exported, while at the present time manufactured goods are running close to one-half as much as agricultural.

In 1890, for the nine months ending September 30 of that year, the total value of the exports of manufactures was \$113,000,000, and the total value of agricultural products exported was \$404,000,000. For the corresponding nine months of 1898 the value of manufactured goods exported was \$227,800,000, against \$571,200,000 as the value of agricultural products exported. The exports of manufactures for the first nine months of 1898 indicate that the total for the full calendar year will reach \$300,000,000 or nearly \$1,000,000 a day for each business day of the year. The exports of agricultural implements, which for the first nine months of 1897 were \$4,485,927, are for the corresponding months of the present year \$8,144,331. Exports of cotton cloths increased from 234,710,633 yards in the first nine months of 1897 to 241,166,079 yards for the corresponding months of 1898; exports of bar iron for the past nine months were 10,283,349 pounds, against 7,588,593 pounds for the same time in 1897; exports of steel sheets and plates rose from 4,873,119

pounds in the nine months of 1897 to 45,043,967 pounds in the corresponding months of 1898; those of wire from 87,556,825 pounds in the nine months of 1897 to 121,004,786 pounds in 1898; locomotives from \$2,319,428 in nine months of last year to \$4,337,693 in nine months of the present year; wire nails from 7,109,847 pounds in nine months of last year to 17,842,278 pounds in the nine months of the present year; exports of manufactures of leather increased from \$14,914,781 in nine months of last year to \$16,382,566 in 1898; refined mineral oils from 634,170,727 gallons in nine months of last year to 664,831,820 gallons in the nine months of this year; cottonseed oil from 21,808,119 gallons last year to 20,429,630 in the present year; paraffine and paraffine wax from 91,428,782 pounds to 111,369,764 pounds, and manufactures of silk from \$174,197 to \$253,787.

The Winter Load Line.

Some influence has brought again to the front the complaint of our New York friends against the winter load line rule of the British Board of Trade. The New York Journal of Commerce quotes a letter written in London as follows:

Many think it would be advisable for the Board of Trade to extend the limitation down to the latitude of Cape Hatteras, thus placing Baltimore in the same category as Philadelphia, New York and Boston, and perhaps in some respects that would be the best all-round solution of the controversy. On the other hand, the Board of Trade may reflect that rules of safety which applied to vessels of the size of those generally in use at the time the rules were established, are no longer called for in respect of the larger class of vessel now habitually in use. For instance, a vessel of 2000 tons is evidently of very different construction from a vessel of 10,000 tons, and is subject to danger from influences which would not affect the larger vessel. It follows that a rule which may be necessary for safety of life in the smaller craft is absolutely unnecessary in the case of the larger one. In view of this, and of the permanently increased size of the vessels in the American trade, the board may see its way to give up the North Atlantic load line altogether, or confine it to vessels under a certain tonnage. Obviously it would appear to be impossible for the committee in fixing a load line to disregard the size of the vessel to which it is applied. The practice hitherto has been that resembling what is known as the rule of thumb; but how absurd this practice is as regards steamers may easily be demonstrated. Supposing that a steamer of 300 feet in length is adjudged to require a freeboard of six feet, by the rule of thumb process in vogue a steamer of 3000 feet in length would have to be given a proportional freeboard, which would leave her an absurd, not to say an impossible, height out of the water. What is the object of fixing a load line? It is undoubtedly to insure the vessel protection against the kind of sea she will have to encounter, and in making calculation the relative size of the seas as compared with the size of the vessel is a material element. The seas, however, are the same, whether they are encountered by a vessel of 2000 tons or by one of 20,000 tons, and their effect must necessarily be much less on the larger than on the smaller vessel. Consequently it would follow that the freeboard required for the larger vessel must be relatively less than for the smaller one. To a vessel 3000 feet in length, for instance, an Atlantic gale, in respect of the sea it would cause, would be nothing more than a summer breeze to a vessel of 300 feet in length. It is to be hoped that the committee will fully recognize and appreciate this point.

This letter presents what might be regarded as a new phase in the matter, but it fails to dwell upon another phase, and that is the raising of the vessel sailing from Baltimore or Newport News or Norfolk, as the coal is consumed on the voyage. Without entering upon the merits of the question as set forth from the New York standpoint, we would like to see some calculations of the difference in freeboard

between vessels sailing from Baltimore and those of the same size sailing from New York when they reach Liverpool or other British ports. Granting that ultimately both classes of vessels follow the same track across the ocean, it could hardly be gainsaid that at least some of the supposed advantages of the Baltimore vessels are overcome by the fact that they must consume more coal. The main question seems to be, would not New York be getting an advantage over Baltimore if the vessels at both ports were obliged to have the same freeboard when they leave their docks?

Reducing the Quarantine.

A dispatch from Havana to the New York Herald says that arrangements are being made for the establishment of a new system of marine inspection at Cuban and Porto Rican ports. It says:

The first disinfecting plant will be established in Havana early next spring. Later plants will be established at Santiago and San Juan. The plan is to have all vessels thoroughly disinfected at the port of sailing, instead of their destination. By this means many lives may be saved by preventing the appearance of disease on board, and epidemics will be shut out of the United States. The commercial influence upon Southern ports will be great, and Northern ports will suffer somewhat. A ship now sailing from Havana for Mobile, for instance, must be disinfected and quarantined there. In future, having been disinfected before sailing, the time consumed during the voyage will count as quarantine. That means that Cuba and Porto Rico will be from three to five days nearer to all ports south of Norfolk than at present.

If such a plan be adopted the Southern ports, notably those on the Gulf, will be benefited in two ways. The menace of a yellow-fever visitation will be largely diminished, and the gain of time at quarantine will be a distinct advantage to merchants endeavoring to extend their trade to the West Indies.

Preparing Corundum for Market.

The report of the Ontario Bureau of Mines for 1898 (Part III) is devoted largely to the corundum deposits of Hastings county, in that province. The report deals with the geology of the deposits, methods of analysis for the determination of the amount of corundum in a sample, and means for concentrating the corundum from the accompanying gangue or rock. The investigation into the most suitable means for concentration were conducted by Mr. Courtenay De Kalb, and are of peculiar interest, in view of the possibility of applying similar methods for the treatment of the corundum-bearing rocks of North Carolina and Georgia. Mr. De Kalb mentions the process now used in North Carolina, which produces concentrates rarely reaching as much as 80 per cent. of corundum, but in his own experiments he employed the ordinary appliances which are used in the concentration of ores in general, and the results obtained show that such machines yield highly satisfactory results. In one test the rock treated had originally 15.5 per cent. corundum. The concentrates obtained amounted to 16.8 per cent. of the total rock, or 90.08 per cent. pure. Different grades of concentrates were obtained, the distribution in percentages of total concentrates being as follows:

Above 95 per cent. pure.....	14.76 per ct.
Between 90 and 95 per cent. pure	37.06 per ct.
Between 85 and 90 per cent. pure	18.71 per ct.
Between 80 and 85 per cent. pure	3.14 per ct.
Between 75 and 80 per cent. pure	9.74 per ct.
Below 75 per cent. pure.....	16.59 per ct.

The loss of corundum in tailings was less than a half of one per cent. The magnetite and low-grade, impure corundum, or emery, were also separated from the corundum concentrates, the magnetite eliminated amounting to 3.825 per cent. of the total rock, and the emery to 0.277 per cent. The superiority of the method pursued over that now in use in the South is apparent from the above figures. The concentration was accomplished mainly with the Hartz Jig and the bubble, using the Wetherill magnetic separator to eliminate the magnetite and emery. The cost of treatment by this system is estimated by Mr. De Kalb at a maximum of \$1 per ton of the original rock.

Further tests were made to produce a grade of corundum pure enough for use as an ore of aluminum. Concentrates were obtained by jiggling which carried over 99 per cent. corundum and only 0.4 per cent. of silica and 0.39 per cent. ferric oxide. This, however, is not quite up to the standard required by the manufacturers of aluminum, but additional trials are now being made, and it is hoped to reach the requisite degree of purity.

The report is accompanied with exhaustive tables and charts showing the methods of treatment, with outlines of methods which are recommended for plants working on a large scale. This report is especially interesting to the South, as Mr. De Kalb is a well-known Southern engineer, now professor of mining and metallurgy in the School of Mining at Kingston, Ont.

Sewerage the Text.

A movement has been started at Jackson, Miss., for the building of an adequate sewerage system. The arguments advanced in its favor are that it will improve the health of the city, enhance values, and ultimately lighten the burden of taxation. The additional statement is made that enough money has been squandered in flight to build a dozen sewerage systems. No better time than the present could be more opportune for an agitation of this subject in Mississippi's capital. The greatest enemy of the development of some Southern cities is the panic which frequently follows the announcement of a case of yellow fever. The worst enemy of yellow fever is municipal cleanliness. One of the most active agents for cleanliness is a sewerage system. Absolute cleanliness would do away with much of the necessity for national control of the quarantine situation, about which so many words are annually wasted.

Germany has at last awakened to the significance of the competition of American iron and steel. There have been reports of one kind and another regarding the inroads made by America upon German territory, but the situation from the German standpoint has never been better described than in a letter of Mr. Wm. C. Dreher, of Berlin, Germany, published in this week's issue of the Manufacturers' Record. He summarizes the discussion started among German technical writers, who, in writing of the competition of their own producers with painstaking thoroughness and accuracy, set forth the facts as to the cheapness of the production of pig iron in Alabama, and in other districts in this country. He shows that the German iron men were inclined to postpone the day when this competition should become troublesome, but that the announcement of the offering of American piping by a

Hamburg house at figures more favorable than those for German piping had apparently capped the climax. Mr. Dreher quotes in his letter extracts from a number of technical and financial papers of Germany full of encouragement to the iron industries of this country.

For a Sugar Refinery.

In a letter to the Manufacturers' Record Dr. R. H. Trimmall, of Atmore, Ala., writes that he is anxious to get into communication with persons desiring to establish a sugar refinery. He stated:

"Our lands produce sugar-cane of excellent quality, not exceeded by any lands in the United States. Our people could and would furnish all the cane required for any plant of a medium capacity, and, of course, the supply of cane could be increased as the demand increased. The factory could be organized on a co-operative plan or otherwise, as was deemed best. The main question and condition to be met would be the guarantee that the cane would be raised in sufficient quantities to warrant the erection of a plant. We have plenty of land here which, with an expense of \$5 per acre, would yield twenty to thirty tons of cane per acre. At the prevailing prices paid for cane it would be very profitable indeed to the producer. An area embracing twenty-one miles south and the same distance north of this place would furnish enough cane in the first year to warrant the erection of a refinery."

Atmore is on the Louisville & Nashville Railroad, 135 miles south of Montgomery and forty-five miles north of Mobile. Dr. Trammall says that if a point was reached where a person could be induced to invest in a refinery, the people of the neighborhood would be willing to help meet the expense.

Literary Notes.

In timeliness, variety and positiveness of quality and interest the November number of McClure's must be pronounced a rare magazine. There is a character sketch of Col. Theodore Roosevelt. "The Inner History of Admiral Sampson's Campaign" is related mainly in hitherto unpublished official despatches. "A True Story of the Fire Patrol," and Mr. E. A. Fitzgerald's account of his own experiences in leading a party for the first time in human record to the tops of the two highest mountain peaks in the Western Hemisphere, and perhaps the highest ever climbed, exhibit human power and endurance in their strongest, most heroic manifestation. And Mr. H. J. W. Dam's portrayal of "The Mystery of Vesuvius," as it was exhibited to him in his own recent explorations of the volcano, gives a sense of the profundity and mightiness of the great earth-dragon not to be had from any other writing on the subject. Then there are three or four very strong short stories—one by Stephen Crane that shows him to great advantage in an entirely new field. The pictures of the number are notable also.

It is not often that a contributor to a magazine spends five millions or so of dollars in fitting himself to write knowingly of a subject. But, if popular report be true, that is, approximately, the sum which Joseph Leiter expended in the acquisition of the information necessary to prepare the article which appears over his signature in the November Cosmopolitan on "Wheat." This is Mr. Leiter's first appearance in literature, but he handles the pen with a bold, firm hand that shows him a man of resources.

SOUTHERN COLLECTION LAWS.

An Analysis of Their Operation in Relation to Outside Creditors.

By C. J. Haden, of Atlanta.

The collection laws of the Southern States do not meet the requirements of rapid commerce. They are too closely modeled upon the economic conditions of a former regime. The trend of more recent lawmaking is toward a better system.

In reply to your invitation to offer an explanation for the complaints which arise from Northern and Eastern merchants who trade with the South, I will endeavor to trace some of the sources of the trouble. The blame is frequently upon the vendor, in that he neglects to take advantage of the precautions which the law affords.

The first seventy years of Georgia lawmaking was based upon one annual pay-day, the harvesting of cotton. I use Georgia as a type of the Southern States. Perhaps three-fourths of the purely financial transactions were formerly consummated between the first of September and Christmas. Long credits, resting more upon individual faith in the personal integrity of the debtor than in the volume of his seizable assets, was the prevailing custom. It was deemed a great hardship upon the debtor to be confronted with a judgment before the cotton season opened. Thus, in the organization of the superior courts, formerly almost the sole nisi prius forum, it was provided that there be only two sessions a year, one the appearance term and the second the trial term for any cause filed. It was impossible for a judgment to be obtained until at least one cotton harvest was reached, and the defendant should have had a chance to dip into the annual currency freshet. Such a system was adapted to that period. After the civil war Georgia tried much experimental legislation. Its last constitution, that of 1877, was drafted by Robert Toombs, who drew his inspiration from the past. The semi-annual superior courts were continued. Happily, however, a provision was made for the organization of what are known as city courts, and these courts have been put into active operation in the cities and larger towns. They hold between four and six sessions a year, and afford relief to litigants, particularly in actions for debt. Yet in nearly all the country counties it remains impossible to obtain a judgment earlier than seven or eight months from the filing of the suit. If the docket be crowded, the plaintiff may have to wait one or more years. These delays are the greatest cause of complaint. This evil is being steadily mitigated by the extension of the city courts into smaller towns.

The homestead provisions have been an obstacle to liberal credit. At the time of the adoption of the last constitution, Georgia was still suffering keenly from the disasters of war. Thousands of the poorer families were struggling daily for the bare necessities of life, and it was for their protection that the homestead was inserted. It was intended as a preservation of the family as a nucleus of the State. Its usefulness is practically over. There is a simple remedy always at the command of the creditor as against the homestead. It can be waived in the note that evidences the debt, or by an instrument in writing where the debt is in the form of an open account, or by ordinary written contract. The constitutional homestead for \$1600 is thus reduced to what is termed the "pony home-

stead," which means only household furniture, cooking utensils, tools, wearing apparel and like unimportant articles not exceeding the total value of \$200.

The widow's dower and the year's support for the family are matters of more serious consequence to the creditor. Written documents, properly drafted and executed, that have the effect to pass title into the creditor, retaining only in the debtor the right of redemption, operate to defeat both dower and year's support. Usually, only money lenders are able to exact this degree of protection in extending credit.

It is only as to individuals of small or moderate means that homestead, dower and year's support need to be seriously considered. Corporations are not beneficiaries of these laws, nor are they allowed to have preferential creditors.

The chief distinction between the collection laws of the Southern and Eastern States is in the delay of the courts, a distinction which is or should be reckoned in the consideration of credits. Other flaws, of which the last two above mentioned are types, may be overcome by a little prefatory diligence.

Vendors of non-perishable goods, particularly machinery, heavy tools and structural materials, have abundant protection if they will avail themselves of it at the time of extending credit. If the buyer is required to pay enough cash to cover the wear and tear or other depreciation in value pending the maturity of the purchase-money notes, and the purchase-money notes contain a clause properly worded indicating that the title remains in the vendor until the property is fully paid for, and these notes are properly executed, attested and recorded, the vendor has all the security which his merchandise itself can afford. The provisions for thus retaining title are very simple. It is necessary to record the conditional sale, note or other evidence thereof, not only in the county where the property is to be used, but also in the county where the purchaser resides, if he resides in another county. By observing certain easily-observed rules the shippers of such articles as threshers, reapers, milling machinery, railway construction and mining machinery, and hundreds of other articles of a like nature, could reduce the risk of selling to a minimum. In cases where these goods are shipped to dealers, where, in the nature of the business, the indicia of title is in the dealer, a consignment of the goods, properly evidenced, serves substantially the same purpose.

It is my observation that distant litigants before our State courts have, as a rule, a fair trial. I am confident that Southern shippers of lumber, melons and fruits have as just grounds of complaint on account of ill treatment by Eastern and Northern buyers and courts as have the shippers of goods coming this way. Dishonest debtors take advantage of distant creditors, and neither latitude nor longitude have any material effect upon it. In a late important case in one of our State courts, in which the writer was concerned on behalf of local laborers and material men as against foreign bondholders, the bonds were sustained as a first lien upon the funds arising from the sale of the railroad. In defiance of great local prejudice and of the more powerful pressure of State decisions, those who

had furnished labor and supplies within six months prior to the receivership were postponed in favor of the bondholders. And in the postponement they lost everything.

While on the one hand merchants shipping staple commodities to dealers in this State are subjected to slow-moving courts, on the other hand I feel safe in saying that those who invest in securities under Georgia laws have greater protection than they would enjoy in most of the Northern States; certainly more than the Western States. Property sold and bought at public judicial sale passes an absolute title into the purchaser, with no equity of redemption in the defendant in execution. In this particular such investors who wish to get possession of their security, where payments have defaulted, are free of what is often one of the worst features of the law.

No small portion of the complaint lodged against Southern collections is traceable to mushroom corporations. Our people knew but little of the modern art of corporate financing until the boom period at the close of the last decade. Stocks and bonds issued upon prospects and other "stuff that dreams are made of" found credulous investors. The South developed a school of promoters, skillful in acquiring debts. A great proportion of these men were not native to the soil. Manufacturers and dealers in railway and electrical supplies and various kinds of machinery, especially such as is used in mining and manufacturing, were induced to part with their products by alluring promises and by letterheads handsomely lithographed and highly ornate with prominent names. The calamities of such transactions have been charged against the South in the general credit clearing-house of the Northern markets. The West has had series of boom plagues, beginning with the Illinois development fever of 1835. Each time the East has written off millions in liquidations. The ill-fated enterprises were planned and manned by immigrants and speculators of Eastern ancestry; borrower and lender were of one blood. The disasters were chronicled as freaks of the fortune-wheel.

But the South went on trial under the presumption of guilt. Viewed through the lens of an hereditary political antipathy, the collapse of inchoate industries in the South appeared as if inspired by malevolence. For just the same reason the conduct of Governor Tanner in suppressing negro laborers in the interest of white strikers, a few days since at Pana, Ill., which has been so widely condemned, would have been condemned as a cruel race persecution had it occurred in a Southern State. Thus, when it is analyzed, it will be found that Southern credit risks have been rated lower than comparative statistics would warrant. Happily, sectional prejudice has been and is yet steadily passing away, but enough remains to unconsciously bias commercial judgment. Southern collections and collection laws are remote from perfection, but they are better than currently rated. A careful comparison will show the Southern States fully up to the standard of the States west of Ohio. As the best and perhaps the only satisfactory test of this proposition, I will cite those interested to investigate the relative market values of Georgia State and municipal bonds with corresponding securities of Michigan, Iowa and Kansas. In the absence of a better method of determining the question, this one should be accepted for the present as conclusive.

The further statistical fact that mortgage indebtedness in ratio of taxable

property is lower in the South than any other section should, in the absence of proof to rebut or explain, indicate that the Southern people are at least measurably prudent in matters of finance. Arkansas makes the best showing, with only 7 per cent. of recorded indebtedness; Georgia comes next, with 8 per cent., while New York shows a mortgage indebtedness of 28 per cent. of its entire taxable property.

The lawful rate of interest in Georgia, being 7 per cent. without contract and 8 under contract, is too high to be objectionable to creditors. In all debts there is no penalty for usury except that it must be stricken off. In the case of deeds made for the purpose of securing an indebtedness, however, usury will vitiate the instrument, though not affecting the indebtedness. This is not true of a mortgage or other instruments which create nothing more than liens. Usury cannot be waived, and those who contemplate requiring a higher rate than 8 per cent. must do so at their peril. The usury privilege is not enjoyed by any individual or institution except building and loan associations lending to their own shareholders.

Where a creditor pursues his rights diligently there is little need for him to suffer by conveyances executed by his debtor to avoid debts. Under section 2695 of the Georgia Code of 1895, conveyances or other acts of any kind made under circumstances indicating intention to hinder, delay or defraud creditors are severely handled, and the law's machinery is given plenary powers for voiding such transactions and for protecting creditors. Indeed, it would be difficult to draft statutes and decisions more in the interest of the creditor class than has been drafted along this line in Georgia.

That lack of punctuality in meeting obligations on the day they are due has been the source of much complaint. In a measure this was explained at the opening of this article. The long credits, the absence of strict bank discipline, the habit of weeks, instead of days of grace, taken and indulged as a matter of neighborly kindness until it grew into a quasi custom-made law, is the explanation. It yet prevails in country districts. I am told by country bankers that the farmer who borrows in the spring on notes payable in the fall as often pays two weeks before as after maturity; with him it is simply a matter of when he markets his cotton. His local creditors understand this custom, and so far as possible humor it. The town merchant, often thus waiting for his payments to settle his Eastern bills, is forced to delay his remittances correspondingly. Thus friction arises between the section of the annual pay-day on the one hand and the section of the monthly settlement on the other. The South gets blame for what are termed in the North "lax methods," because of a system that existed in the South in affluent ease long before the New York clearing-house was organized. And the very men who are ultimately accountable for it are moderately well-to-do farmers who, indifferent to day of grace and protests, are without superiors in the world as credit risks. It is my opinion that no banks in America can show a better record for collections than those which lend money to farmers in the middle Georgia counties on eight and twelve months' time.

Slowly our plantation customs have been yielding to the swifter commercial methods of the North. Each year witnesses a gradual increase of wealth, the spread of the manufacturing spirit and the absorption of Northern ideas, and as a natural result less credit is extended

upon personal confidence. Whether there be anything to regret in the change is not a matter for discussion here. In my opinion, a fair equation would prove the presence of a better epoch.

GERMANY IS AROUSED.

Recognizes the Competition of American Iron and Steel.

[Special Cor. Manufacturers' Record.]

Berlin, Germany, October 17.

For some time German iron and steel workers have been expressing grave apprehensions as to threatened competition from the United States. Particularly the organization of the Federal Steel Co., and the plan at that time published of establishing American iron and steel depots in Europe, caused a flurry of excitement that cropped out in numerous newspaper discussions of the subject. The extraordinarily favorable situation of the United States for the cheap production of iron and steel have been known to the Germans from the first. The chief trade paper for the iron and steel industries, "Stahl und Eisen," together with other publications, has published lengthy articles on the great ore resources in the Lake district and in Alabama. The facts as to the cheapness of production of pig iron in Alabama and in the Pittsburgh district have here been laid before German producers by their own technical writers with painstaking thoroughness and accuracy. Hence the hopes, which had been cherished among iron men here, that Germany would soon cut the largest figure in the world's iron and steel markets, or at least run England a close second in the race, have been rudely cut short by the rise of a competitor that is clearly destined to outstrip both these Old World contestants in the struggle for economic supremacy.

All this has been, as I say, more or less clear to well-informed German iron men for some time, but they were disposed to postpone the day when this American competition should become troublesome to them so far into the future as possible. They were assured that the very low prices prevailing for the past three or four years with us were due to the panic of 1893 and the subsequent economic ills under which the country suffered, and that just so soon as a great boom should again set in with us the domestic demands for all forms of iron and steel products would be so great that prices would again rapidly rise to a point which would remove American iron as a factor in fixing prices in the world's markets.

Well, the boom has now been on for more than a year, and what do the Germans find? They see with amazement that our prices have risen but moderately, and already show a tendency to stop rising, or even to recede slightly. Not only so, but the spectre of American competition suddenly takes on shape and substantially again strides across the stage the Germans thought their own, and shows no inclination to obey the cry, "Avant!" For some weeks there have been occasional reports in the papers to the effect that Alabama pig iron was coming into Germany, but these reports excited comparatively little attention, as occasional lots had already been shipped here during the past year or two.

Quite different was the case when, last week, it was announced that American piping had been offered in the great Rhine-Westphalian iron district by a Hamburg house at figures more favorable than those for German piping. Then followed swiftly the announcement that the German rolled piping syndicate had cut prices by three marks per 100 kilos (nearly 33 cents per 100 pounds) to meet this American competition. This news

was swiftly taken up by the bourse, and a bear movement in the shares of the principal iron and steel companies set in and drove quotations down rapidly, affecting sympathetically other industrial shares not connected with the iron and steel trades.

The German rolling-mill people had been for some time, however, anticipating an encounter with American competition, and had been deliberating upon measures to meet it. Recently the chief organ of the rolling mills printed the following:

"With regard to American competition in Europe itself—which is now looked upon by even our greatest manufacturers as a serious future danger—as well as in those foreign markets which German industry long since conquered, and which are as yet under its sway, there has been, as we are informed from a competent source, a confidential preliminary exchange of views between several leaders in the Rhine-Westphalian and Upper Silesian districts of the iron and steel industries as to the ways and means of protecting themselves against American competition and the warehouses of steel manufactures to be erected in Europe, and as to measures for uniting the larger and smaller works for self-defence against this American competition. These consultations are as yet in the stage of the most preliminary preparation. Still it can already be stated today that, although there is agreement in principle and a harmony of views among the great manufacturers of the Rhine-Westphalian district as to the necessity for defensive measures against the imports of American steel products, which are certainly to be expected upon a large scale, nevertheless there are extraordinary difficulties to overcome, both as to persons and things, before a practical agreement between all the German rolling-mill associations and the various forms of production in the iron industry is realized. Measures of defence, like the consolidation of the export bureaus of the various syndicates and a systematic organization to secure very large foreign orders, recently set forth in this paper as imperatively necessary, are now held by several leading manufacturers in the iron and steel industries to be indispensable and immediately urgent."

In connection with the general subject of American competition in iron and steel products, it will doubtless interest the readers of the Manufacturers' Record to hear some further German opinions in the matter. The Cologne Gazette, in connection with the published report that the American manufacturers would try to invade the European markets, undertook in its market report to remove the fears that had been aroused as to "flooding the markets of Europe with American iron," using the following language:

"Admitting that such bold plans are cherished across the ocean, there is no guaranty for their execution. In the chief circles of our iron industry the closest attention is given to American competition, and the continued formation of organizations in the iron trade are to be interpreted, in large part, from this standpoint. With the formation of these associations domestic industry will grow more and more capable of competing with the foreign manufacturers. Besides this, the present consumption in America, as the figures show, is very great, and an export trust has not at present the supplies at hand to serve its purposes."

The Vossische Zeitung said recently in a stock-market report:

"The bourse grows more apprehensive in observing the progress that American

competition is making in Europe. At least the warnings are becoming more and more frequent that our iron and steel industries should not confine themselves so exclusively to the home market, but should continue to foster their export trade, even at a loss, as otherwise the Americans may take possession of markets hitherto belonging to us. It is a serious question whether our iron industry will remain able in the long run to hold its own in competition with the Americans upon the world's markets. Our industry, producing goods in bulk (unseine Massenindustrie), will perhaps have to undergo the same experience as our agriculture; that, namely, the New World, with its immense superabundance of raw products, will supply these to the older-civilized countries, at prices below the costs of production here. There is, therefore, not much gained when here and there our iron industry succeeds at some loss in dislodging our American competitors. The iron industry, so important to Germany's economic life, must secure, above all, the home market, and leave the export business to better-equipped branches of industry, falling back upon it only as a last resort."

I close these quotations with the following words from the recently-published annual report of the Chamber of Commerce of Bochum, one of the centers of production in the Westphalian iron district. After mentioning the fact that American machinery, foundry iron, steel rails and steel goods had begun to be imported into Europe, and even into Germany, the report continues:

"Inasmuch as it had been looked upon as absolutely impossible that American pig iron could be offered in Ruhrtal at a lower price than the German article, the fact called forth last year, when it actually occurred, widespread anxiety and concern, as it deserved to. For although the imports from America were for the present only a consequence of the large overproduction of the American works, and have since fallen off, still this phenomenon has in it much significance.

The American iron industry, striding forward with restless steps, will undoubtedly try to hold fast to connections once made, even at a sacrifice of profits at first, and these efforts can only be defeated after the German iron industry has been placed about on an equality with the American in the matter of railroad freights. For the astonishing successes of the young American iron trade upon the world's markets are not due to a higher technical equipment, but, besides favorable natural conditions, those successes are due to surprisingly low freights in the assembling of the raw materials and in the shipment of the finished goods to the seaports. Therefore, precisely in view of this threatening competition we must renew the old demand of the Rhine-Westphalian iron industry for lower rates on ores from Lorraine, and for a special cut rate on iron manufacturers to the seaports."

WM. C. DREHER.

IRON AT BIRMINGHAM.

The Only Weakness in the Market Is Its Strength.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., November 1.

Variations in the iron market are mighty few now, and very little of interest can be gleaned. Sales the past week in volume were just what the furnaces cared to accept. All sales made are reported on basis of \$7.75 for No. 2 foundry, but a sight at the sales register would reveal the fact that some sales were entered at higher figures. There was a brisk demand in a small way for what is

known as high silicon iron, as well as for the soft grades. Supply could not meet it, there being almost a famine in those grades. A prominent official of the Tennessee Coal, Iron & Railroad Co. said to the writer: "Since my connection with the company I have never known the stock in our yards to be so light, and by January 1 they will be practically cleaned up." The other interests are in the same condition. The consensus of opinion seems to be on the side of higher prices. Looking at the market from a common-sense point of view, considering it in the light of past experience, the conclusion is inevitable that the only weak point in it is its strength. The warrant yards are being constantly invaded for stock for shipment, and there has never been a time since their inauguration when the drain upon them has been so continuous or so large. Nothing of interest could be ascertained concerning iron warrants, and no transactions were reported. Operators report the finest fall demand for coal they have ever had. We will go into November with a long string of unfilled orders on the books. The explanation of the increased demand was "a multitude of small things." The fact is that coal is supplanting wood as fuel in all enterprises where cost is anything like approximate, and the railroads are aiding in its increased use by a liberal freight tariff. This is shown by the shipping sheets, which disclose new points being constantly added as customers to the coal fields. The iron export trade the past week was only moderate. But the movement outward was good. Some room was offered at prohibitive rates, but fell to the prevailing rate, and all that was offered was absorbed. More, much more, could be placed with foreign buyers were conditions favorable.

At Ensley City the foundations of all the main buildings of the steel plant are completed, and the work on the superstructures will now begin. Part of the necessary material is here, and is constantly arriving. A Pittsburg firm captured all the contracts let last week on the plant. The steel plant has let a contract for 100 houses for the operatives, and will follow it in due season for 200 more houses. The Sloss Company has let contracts for sixty-five houses at Leeds for its operatives in the brown ore fields, and the Pioneer Mining & Manufacturing Co. has closed contracts for 300 houses for its operatives at the coal mines lately acquired by it. This means that from crudity to finished product the middleman has no place there any longer.

The minor industries show some improvement. Hardie-Tynes Company shows a shop full of unfinished Corliss engines, with others registered on order book, but not yet commenced. The Means-Fulton Company the past week took on new orders for several boilers, some of them being of large capacity. The Warrior Machine Co. installed a new electric plant for the new bone-meal mill, and the Birmingham Boiler Works secured the oil tanks for the Florence Oil Mills. The brass foundries are crowded with work from furnaces and railroads.

J. M. K.

Eastern Iron Markets.

[Special Cor. Manufacturers' Record.]

Philadelphia, Pa., November 2.

The iron trade is quiet, and prices are firm in all manufacturing and selling centers. Production is maintained at mills at an even pace. Manufacturers recognize that conservatism prevails on the part of consumers as much today as two or four weeks ago. There is no present disposition to make contracts now for delivery after January 1, although there are many large consumers who have done so, in some cases months ago.

Pig-iron quotations are firm. Foundry irons sell slowly, because there are but few large buyers on the market. Enormous deliveries are being made on old contracts. The mill irons incline to weakness, though no instances of a break below \$10 for a good iron are known. Billets are also showing signs of weakness, and consumers are awaiting developments at Pittsburg and Wheeling with interest. The merchant-bar mills are all doing a fair business, especially in soft and special steel bars. Nails have weakened, and may suffer more. Pipe mills have run prices up to a fair point, and their managers are pleased at the situation. Their order-books are filled in Western mills. Sheet mills are doing a good healthy business. Plate and structural mills are driving with all the energy that oncoming business at more remunerative prices can inspire. The rail makers are threatening an announcement. Old rails are dull, and scrap men are anxiously gathering up scrap for after January 1 sale.

MR. ATKINSON HITS SILVER.

The Boston Economist's Analysis of a Criticism of Him.

Editor Manufacturers' Record:

In your paper of October 21, under the head of "A Losing Policy," you have administered a mild rebuke to me, which I would cheerfully accept if it were not based on an erroneous statement quoted by you from Gunton's Magazine for October, which magazine I have not seen.

I would venture to suggest that it is safer for an editor to deal with original documents rather than with reviews before giving judgment. I am a little uncertain whether the substance of your article is your own or Mr. Gunton's. The text reads as follows:

"The subject of the review is a monograph by Mr. Edward Atkinson, published by the sound currency committee, and the alleged point of misrepresentation is not an actual misquotation of the figures of the cost of producing silver, but the misapplication of their relation to the general cost of producing the market supply of silver, it being pointed out that Mr. Atkinson has used the figures of the two best mining companies of the world to illustrate his article."

I beg to ask on what evidence do you or Mr. Gunton rest the statement that the two mining companies analyzed by me are the best mining companies of the world? I doubt it very much. I reviewed the published accounts of the Broken Hill Silver Mine, of New South Wales, and of the Anaconda Copper Mine, of Montana, because, so far as I can learn, these are the only two large silver-producing mines that publish their accounts. If you mean by the term "two best mines of the world" the two most profitable, even among silver mines, in proportion to the investment, I do not believe it. I believe there are other mines in which silver is a secondary product, the proceeds being added for whatever it will bring to a very large profit on the lead, gold or copper, which is the main product of the mine; but these facts are carefully concealed, while the reports of the two mines which I have analyzed furnish very adequate figures. They happen to be two of the largest producers of silver. There is a third very large producer of silver, known as the Huanacha Mine, which is either in Peru or Bolivia, about which no figures can be had. I believe that it stands second in quantity to the Anaconda, and that it is probably even better, in the sense of being more profitable, than any other silver mine.

The Anaconda Mine now yields something over five million ounces of silver a year as a by-product.

The Broken Hill Silver Mine is rapidly increasing its products of gold, copper, lead, antimony and zinc, while the proportion of silver is diminishing both absolutely and relatively, they becoming a by-product.

But these two mines, with the Huanacha added, the three largest silver-producing mines, now yield less than 10 per cent. of the total product of silver of the world, which has just been declared at 183,096,090 ounces.

Now, if you or Mr. Gunton have any information by which you can prove that the Anaconda and Broken Hill Mines are the two best, i. e., most profitable mining companies of the world, you must have succeeded in procuring statements where I have failed. I therefore ask you to produce your evidence and to let me have the facts. Can you do so? If not, is it not incumbent upon you to withdraw your erroneous version of the pamphlet published by the sound currency committee, of which a copy is enclosed.

I am very glad that you have reopened this question, and I will now proceed according to the rule which I long since adopted in dealing with it. When the editor of a Denver paper, commenting upon one of my articles on silver, said that "Edward Atkinson was the champion liar of the world, and that Ananias had been very discreet in getting himself born early in history, since if he had waited until now he would have had no reputation as compared to Atkinson," I acknowledged the compliment which he had unwittingly paid me by saying that my rule in dealing with the silver question was wherever I saw a silver head to hit it, and that I was very glad to have his personal assurance that in his case I had cracked a skull which was empty of everything except courtesy.

Do not apply this to yourselves. You have given me an excellent opportunity to hit some of the few silver heads yet remaining exposed. There seems to be an effort to patch up their cracked skull in the present confusion of politics, and you have again called attention to the object of this effort. The object of the advocates of the free coinage of silver is to force silver dollars upon the community under a legal-tender act at the rate of 16 to 1, that is to say, at the rate of \$1.29½ an ounce, when the bullion in the dollars is worth less than fifty cents an ounce, while in the Broken Hill Mine it costs less than twenty-five cents; in the Anaconda and probably in a vast number of smaller lead, copper and gold mines being all profit, costing whatever the owners of the mine please to charge to the silver as being so much off from the cost of other metals.

These people not only undertake this kind of force bill, but they propose to offer the free use of the mints of the United States to the owners of the Broken Hill Mine, the Anaconda, the Huanacha and the other mining companies for the free manufacture of these dollars at the expense of our taxpayers without making any charge. It is an expensive process to manufacture dollars out of silver, and yet more expensive to provide storage capacity in the Treasury Department for the dollars which the people refuse to have forced upon them. We have now about five hundred million such dollars in stock.

In addition to these powers proposed to be granted to the owners of silver mines, which are mostly British, the advocates of the 16 to 1 policy, assuming that the farmers of this country, especially the cotton-growers, are nearly all

stupid people, who are so ignorant that they can be jockeyed into believing that bad money is better for them than good money, want to make what is called a "bimetallic treaty," under which the foreign purchasers of our cotton, our grain, our oil, our provisions and our manufactures, who are now buying of us over one hundred million dollars' worth per month on a gold basis, may be enabled under a force bill to put silver dollars upon our own people in liquidation of their contracts, keeping the gold to sustain their own credit.

Only look at this case in the face of the facts! According to the report of the director of the mint, which has just been issued, the world's product of silver in 1897 was 183,096,090 ounces, exceeding the largest previous product ever known, that of 1885, when it reached 167,500,000 ounces. Yet this increase has occurred in the face of a falling price. The average value of silver bullion in 1885, when under the Sherman act we were taking nearly the whole product of the United States out of the market, was eighty-two cents per ounce. In 1897 the average price given by the director of the mint is a little under forty-seven cents an ounce.

Does not this fact prove that there is a very large profit on silver, even at that price? When silver fell to less than forty cents an ounce—from which price it has risen a little—even that did not stop the production. Silver is becoming more and more the by-product of gold, copper, lead and zinc mines—a very useful metal, very largely in demand for monetary purposes in poor countries, but wholly unfit to become the single standard of a great commercial and productive nation like ours. That would be the necessary result of the policy of free coinage. It is not bimetallism; it is an effort to bring this country to the single standard based upon silver. Undoubtedly a great many of the advocates of this policy are perfectly honest in their intentions, but it is one of the illustrations of the common saying that there is a very hot place paved in that way into which it behoves us not to enter.

There are a good many men who have been perfectly sincere in their support of this policy, but those who are capable of reasoning have come out where I long since predicted they would come. They are fiat money men, and they see the folly of wasting effort to buy and use silver when paper will serve the purpose just as well, if not better. They have gone through the silver craze and have come out greenbackers, going over to the populists and acting with those who attribute the use, service and monetary power of money to the law and not to the value or estimation of the coin itself. There is nothing new in this delusion about money. It has come up everywhere. It has sometimes been carried into effect. It has always promoted discord and disaster. It came up in 1893 under the form of the silver craze. It is coming up again in 1900 under the old greenback craze, to which President Grant gave a quietus in 1874. None of us will live long enough to survive this delusion, and all of us who want to keep the credit of the country sound and the people prosperous will have to fight it as long as we live.

Therefore let us make the best of it and get what amusement out of it we can. To my mind many of these excellent gentlemen who support the silver craze and the fiat money craze constitute studies in the intellectual vagaries of mankind. They are very amusing, but seldom of sufficient importance to do much harm; yet occasionally showing the heads in such a way as to make it necessary to give them a clip according to the rule, wherever a silver head shows, hit it.

EDWARD ATKINSON.

Boston, October 24.

General Industrial News.

The Heard Eyeglass Co. has been incorporated to do business at Toledo, Ohio, with \$25,000 capital.

A dispatch from Wheeling, W. Va., announces that the Co-operative Stove Co. has begun work upon its new plant at that point.

It is reported that Messrs. Anderson Bros. & Simpson, of Bellaire, Ohio, have decided to rebuild their foundry and machine shop recently destroyed by fire.

It is reported that the Reading Pulley Co., of Reading, Pa., is making arrangements to erect an addition to its buildings for the purpose of making iron pulleys.

The United States Cotton Co., of Center Falls, Mass., has recently completed extensive repairs and alterations to its plant, and has resumed operations with a full force.

It is stated that the Moore Bronze & Plate Co., of New York, is considering the idea of removing its plant to Winston, Conn., where it will have more ample facilities for its work.

Hon. Thomas B. Dunston, of Hancock, Mich., is interested in a \$2,500,000 company called the Adventure Copper Mining Co. It is stated that the corporation will work in the Lake Superior region.

It is announced that the Carnegie Steel Co. has begun the construction of its additional plate mill at Homestead, Pa. It is calculated that this mill will employ 500 men and will cost about \$750,000.

The Mesta Machine Co., of Homestead, Pa., will operate the works now being constructed at that point for the manufacture of molds, gearings, etc. Among the directors are F. E. Mesta and John O. Horning.

The name of W. I. Babcock, general manager of the Chicago Shipbuilding Co., is prominently mentioned in connection with the management of the large shipyard to be located on Staten Island, New York harbor.

It is announced that the Laurel Lake Cotton Mills Co. is considering the investment of \$200,000 in its plant for the purpose of making extensions and improvements. The factory is located at Fall River, Mass.

The Benjamin Steel & Iron Co., of Buffalo, N. Y., has established a branch of its business in the city under the title of the Buffalo Machinery & Supply Co. This concern will sell mill and railroad supplies, elevators, etc.

The John G. Roach Distilling Co. is a new Jersey City corporation, with \$450,000 capital. Its offices are at 259 Washington street, and the company includes John G. Roach, Neill Roach, Matthew Neill and John M. Enright.

According to the statement of one of its promoters, the combination of paving-brick manufacturers will represent fully \$15,000,000. It is claimed that the trust includes 90 per cent. of the makers of paving bricks in this country.

The Edison Junior Electric Co. has been chartered for heat, light and power purposes in New York. The incorporators are Thos. A. Edison, Jr., S. R. Valentine, H. S. Hepburn, E. A. Drake and C. S. Henry, all of New York city.

The West Point Mining Co., of West Point, Tenn., has just been organized, with a paid-up capital of \$50,000; A. A. Berger, president, and N. C. Elting, secretary and treasurer. The company has a lease on 142 acres and owns absolutely

100 acres of the finest ore lands in the South.

A recent incorporation is that of Marcus Mason & Co., with \$100,000 capital. It is announced that this company will manufacture machinery of different kinds. Among the directors is J. Dobson Good, of East 44th street, New York, N. Y.

The Elwood Manufacturing Co., of Elwood, Ind., it is stated, is erecting a machine shop 40x200 feet, in addition to two smaller buildings, which will contain an outfit for general manufacturing; also the construction of gas engines and boilers.

It is understood that Messrs. Belding Bros. & Co. have met with such success in the operation of their silk mill at Belding, Mich., that they have decided to add considerable machinery to the plant. This mill makes a specialty of silk weaving.

A report has been widely circulated that the Cramp Shipbuilding Co., of Philadelphia, has decided to construct an additional dry-dock. In a letter to the Manufacturers' Record this corporation states that the report is somewhat premature.

The Union Dry-Dock Co., of Buffalo, N. Y., it is stated, is to construct a new machine shop about 110x400 feet in dimensions. It will also enlarge its plant to install a number of pneumatic and electric tools, as well as an electric crane.

The American Emery Wheel Works, of Providence, R. I., has been obliged to increase its equipment for finishing emery wheels on account of the business demands. It writes the Manufacturers' Record that it has nearly doubled its present capacity.

A report from Beaver Falls, Pa., is to the effect that the Union Drawn Steel Co. is preparing to construct an addition to its present plant, to be 375 feet in length and two stories high. It is understood that no machinery has been purchased as yet.

J. B. Doan & Co., of Chicago, have been awarded the contract for about \$20,000 worth of improved machinery for the Rock Island arsenal. The order includes lathes of various sizes, upright drills, milling machines, screw machines, shapers and power hammers.

The Grain Food Co. has recently been formed at Toledo, Ohio, for the manufacture of cereal foods, with \$100,000 capital. It is announced that the company will erect a plant in the near future. Louis M. Friedman and Wm. G. Myers are among the directors.

Recent fire losses at manufacturing plants are as follow: Barlow Bros. Co., of Waterbury, Conn., \$25,000; Fenton & Dunn, carriage factory, at Holyoke, Mass., \$15,000—damage included stock and factory; Diamond linseed-oil plant at Elyria, Ohio, loss \$60,000.

The Mount Vernon Hygeia Ice Co., with offices at Jersey City, has been formed, with \$100,000 capital. It is stated that this company will manufacture ice by a special process. James H. Bailey and Burton S. Cowles, of Jersey City, are directors of the company.

Messrs. J. M. Hayden & Co., of Grand Rapids, Mich., write the Manufacturers' Record that they are preparing to erect a new smelting works, which will be over ten times the capacity of the present plant. The enlargement is necessitated by the increase in the firm's business.

Jos. ph J. Dickerson, of Jersey City, and Frederick Fraentzel, of Newark, N. J., are interested in the Willner Wood Co., which has been formed, with \$500,000 capital, to manufacture fireproofing, also ornamental woodwork. The plant of this company, it is stated, is to be located at Newark.

The new buildings to be erected for the

Lawrence Cement Co. at Siegfried, Pa., consist of a kiln building, 120x126; mill building, 63x285; engine building, 75x105; boiler-house, 42x105; stockhouse, 120x462, and fuel building, 50x60. The buildings will be of brick, with steel columns and roof trusses.

The factory in Shelton, formerly used for the manufacture of postal cards for the government, has been leased for a term of years, and is being fitted up for the reception of a large amount of new rubber machinery. It will be operated by the United States Rubber Reclaiming Co., of Ansonia, Conn.

It is reported that the Union Tobacco Co., recently incorporated in New York city with \$10,000,000 capital, is to become a competitor of the American Tobacco Co. It is stated that the company will have its principal offices in New York city, and that among those interested is James G. Butler, of St. Louis.

The International Tobacco Co. has been incorporated at Albany, N. Y., with \$150,000 capital, by Michel Berger, Joseph H. Harris and others, of New York, and J. Edward Stoke, of Stapleton, S. I. It is understood that this company will do business at New York and locate its plant in the vicinity of the metropolis.

According to a dispatch from Hartford, Conn., there is a possibility that the various plants controlled by the Lozier Manufacturing Co. will be consolidated at Westfield, Mass. It is stated that this company, which manufactures bicycles, has already begun removing machinery from its factory at Thompsonville, Conn.

A dispatch from Wheeling, W. Va., announces that the Aetna Standard Iron & Steel Co. has purchased a site near Mingo Junction, Ohio, on which will be erected a new steel plant. The plant will contain what is said to be the heaviest machinery yet planned for such works in this vicinity. Six 10-ton ladles have been purchased.

The Springfield Gas Engine Co., of Springfield, Ohio, has secured a large three-story brick building, and will double its present force of employees. The company writes the Manufacturers' Record that it will install new machinery in this building.

When it began operation seven years ago it occupied a room 10x12 feet in dimensions.

Sometime ago Edward Ford, of Toledo, Ohio, decided to construct a factory for making plate glass at a cost of \$500,000 in that city. Owing to trouble in obtaining proper railroad facilities, there is a possibility that the plant may be located elsewhere. It is stated that Mr. Ford has received several liberal offers to locate in other cities.

The Covert Manufacturing Co., whose plant is located at West Troy, N. Y., is constructing an addition to its factory. The company has increased its power capacity, and expects to have all improvements completed by January 1. This corporation, which makes harness specialties, has been in constant operation for twenty-five years.

A report from Chicago, Ill., is to the effect that the Illinois Steel Co. has determined to increase its facilities by constructing a large ore-shipping dock at South Chicago; also two new blast furnaces. It is calculated this will increase its present force by 1000 hands. Work has already begun upon the foundations for the dock and furnaces.

The Carborundum Co., of Niagara Falls, N. Y., in a letter to the Manufacturers' Record, states that it has recently completed an extensive addition to its factory, and that the entire plant is now being operated to its full capacity. It has begun manufacturing carborundum paper

and cloth, in addition to other specialties. The company has begun the construction of an additional kiln.

Plans have been prepared for the plant of the Alcania Tinplate Co. to be constructed at Avonmore, Pa. The plans call for a six-mill plant, the main building to be 100x200 feet in size, pickling-house 50x50 feet, tinning-house 50x130 feet, boiler-house 50x60 feet and several smaller buildings. The power plant will have about 800 horse-power. A 16-ton electric traveling crane will be installed.

The Tonawanda Power Co. has been organized, with \$100,000 capital, to furnish electricity, pneumatic or other power or energy produced by electricity, with offices in North Tonawanda, N. Y. Directors are Edward D. Adams, Francis Lynde Stetson, Edward A. Wickes and William B. Rankine, of New York; Chas. A. Sweet and Lincoln A. Groat, of Buffalo, and Delaney Rankine, of Niagara Falls, N. Y.

The American Tinplate Co., of Anderson, Ind., has let contracts for doubling its capacity, making it the largest tinplate plant in the world. A rolling mill will be erected in connection with the plant, and the steel billets will be made at Anderson. When the additions are completed the working force, it is stated, will be over 4000 men. The same company will engage in the manufacture of bicycles, and will erect a plant for that purpose.

It is announced that the Continental Tobacco Co., of New York, will be the name of the organization representing the interests of the following firms: John Finzer & Bros., Louisville, Ky.; P. H. Mayo & Bro., Richmond, Va.; Daniel Scotten & Co., Detroit, Mich.; The P. J. Sorg Co., Middletown, Ohio; Harry Weisinger Tobacco Co., Louisville, Ky.; The P. Lorillard Co., Jersey City, N. J.; The Drummond Tobacco Co., St. Louis, Mo. This company, it is understood, will be the successor of the American Tobacco Co.'s plug-manufacturing branch.

The promoters of the plan to utilize the water-power of the St. John river at Grand Falls, N. B., across the Maine boundary, have organized. The capital of the new concern, the Grand Falls Water Power & Boom Co., is \$1,000,000. The company proposes to erect large pulp and paper mills. The directors are as follows: Hon. Redfield Proctor, of Vermont; Russell A. Alger, Secretary of War; Sir William C. Vanhorn, president of the Canadian Pacific Railroad Co.; R. B. Angus, a director of that company, and Hugh P. McLean, of St. John. Several more pulp mills are to be built along the Penobscot river in Maine. At Winn a large pulp and paper mill is to be built, an extensive enterprise is planned at Milford, and a company has just been formed whose purpose is to erect on the west branch of the Penobscot the largest pulp and paper mill in the world.

Louisiana Salt Mines.

It is stated that the mining of salt in Louisiana is rapidly developing. It is understood that the Iberia Salt Mills will be worked by a new plant which will have an output of 500 tons per day. In addition to this company, the Myles Company is obtaining about 400 tons daily on Week's Island, while a Chicago company is preparing to obtain about 200 tons daily on Belle Isle.

Mr. Martin V. Calvin, Augusta, Ga., has published in a little pamphlet a striking array of facts and figures of the agricultural possibilities of Georgia, comparing 1885 and 1888 with 1893, 1895 and 1896.

COMMERCE.

This department is devoted to a record of the rapidly developing commerce of Southern ports.

Oil as Steamship Fuel.

The question of oil as a fuel for steamships is steadily increasing in interest, owing to the small space which it takes up on a vessel as compared with coal. Vessel men realize that it is an important factor in economic operation. An experiment which resulted successfully was recently made in England on the steamship *Haliotis*. This vessel was built not only for the carrying of liquid fuel, but also for the consumption of it. The method of using the oil is simple. A small donkey pump drives it to a large drum or service tank, some six feet in diameter and about ten feet long, which is secured a few feet above the level of the tops of the casings of the boilers. The oil flows from the drum by gravity through a small pipe to the level of the furnaces, toward which it passes through various branch pipes. It then reaches a nozzle, which is a duplex structure having passages through it for both steam and oil.

The steam reaches the nozzle by other pipes and branch pipes, and when the valves which control the flow of both steam and oil are opened the steam and oil are blown through the furnace door simultaneously. By the impact of the steam the liquid fuel is spread out like rain, it falls upon the red-hot fire-brick which is built in the form of a fore-and-aft wall in the furnace, and it at once is converted into a flame nearly white and apparently of extraordinary heating power.

The first experiment was with coal of the best character. On a measured mile the vessel made with this fuel ten and one-half knots, the mean consumption of coal being 2.47 pounds per indicated horse-power an hour. After this the oil fuel was tried. The run showed a consumption of 1.67 pounds of oil per indicated horse-power, or about 30 per cent. less than the consumption of coal in the same engines and boilers.

Improvements at Sabine Pass.

The improvements being made by the Southern Pacific Railroad Co. at Sabine Pass have resulted in the formation of another town in the vicinity of its terminals. The number of settlers has become so extensive and the investment of capital has reached such proportions that it is believed that the new town and the old, as Sabine Pass proper is termed, will be combined in one large city. The demand for real estate is constantly increasing, and prices have considerably appreciated. While the former town was maintained largely by the lumber trade, the export business which will be brought to this community by the Southern Pacific will be one factor which will largely take the place of the lumber shipments when they are discontinued. The surrounding country is well adapted to the cultivation of fruit, grain and vegetables, which will naturally be shipped to this point as a market. The place is also to become the terminal of several lines of foreign steamships, and their exports will play an important part in its development. Already many Western and Northern people have been attracted to Sabine Pass on account of its bright prospects, and, in addition to locating in or near it, have invested liberally in land and other enterprises.

New Orleans' Iron Exports.

The extent of iron shipments from New Orleans is arousing much interest in the North as well as among Southern railroad officials. In that connection the follow-

ing statement from General Freight Agent Shepard, of the Louisville & Nashville system, is of interest: "There is five times more pig iron going through New Orleans today than there has ever been, and the shipments have before this run up to several hundred tons per week or more. They put pig iron on the cars in the Alabama iron districts fresh and hot from the furnaces. The demand is very great, so much so, indeed, that the price has gone up seventy-five cents per ton. This is certainly fast growing to be a big iron port. We propose that it shall be larger. There will be hundreds and thousands of tons of pig iron through here right from this time on. It is our best port for the business, because we get better ocean rates, a quicker haul, with better facilities for handling it."

Virginia Tobacco in Asia.

A Richmond dispatch states that the firm of Murai Bros. & Co., of Kyoto, Japan, have so far bought and shipped fully 6000 hogsheads of bright tobacco for cigarettes. Besides engaging an extra steamship for the shipment, one steamship has been chartered to go by the Suez canal, to reach Japan before January 1 next.

About 90 per cent. of the manufactured tobacco trade of Japan, as well as China and Korea, is controlled by this factory, whose demand for bright tobacco alone next year out of the present crop will probably exceed 10,000 hogsheads. They say that Japanese tobacco can never compete with Virginia bright tobacco, as their soil and climate will make only a dark kind that will not bear export, and is not fit for cigarettes.

Four in One Day.

As an indication of the export business of Galveston, Texas, it may be stated that one company of shipping agents recently cleared four vessels in one day for European ports. The ships were the Lindisfarne, Vala, Ullapool and the Hemisphere; the last three are bound for Liverpool and the first-named vessel for Rotterdam. This is so far the greatest number of ships cleared by any one ship agent in one day. The vessels combined carried 30,700 bales of cotton, valued at \$823,310. In addition to this was carried other cargo, as follows: Wheat, \$60,480; cottonseed oilcake, \$7200; cottonseed meal, \$9000; cottonseed oil in barrels, \$4750—making the total value of the cargoes of the four vessels \$904,740.

A New Steamer.

The Queen Anne's Railroad Co. has decided to construct a steamer for its service between Baltimore and Queenstown, to be used in connection with its train service from Queenstown to Lewes, Del. The steamer is to be 200 feet long, and have a speed of eighteen miles an hour. It will contain a number of staterooms, and is expected will cost about \$100,000. It is understood that the vessel will be ready for service in May next, and that the company will then put on passenger trains of Pullman cars between Queenstown and Rehoboth Beach. This railroad is operated by a company of Baltimoreans, of which Wm. H. Bosley is president.

Favor the Levee.

The plan of the Illinois Central Railroad Co. to erect an extensive levee on the water front at New Orleans has been approved by some of the leading business men of that city. They recognize the fact that such a levee will not only be an advantage to the railroad company in increasing its frontage on the harbor, but will also be an additional protection to

the city from high water. The agitation in favor of this plan is steadily increasing, and it is believed the company will secure authority to make this improvement from the city.

Export Demand Increased.

New York advices report that the demand for cotton goods for export has suddenly increased within the last fortnight. Three leading houses in the market report sales of some 40,000 bales for Southern mills, and on behalf of Eastern corporations from 20,000 to 25,000 bales are known to have been disposed of. Of the former may be named Woodward, Baldwin & Co., Deering, Milliken & Co. and Haines & Bishop, and of the latter Bliss, Fabyan & Co., Smith, Hogg & Gardner and Amory, Browne & Co.

To Improve the Harbor.

The Northern Central Railroad has determined to increase the depth of water around its docks in Baltimore harbor in order to accommodate ocean steamships of the deepest draught. Some of the largest grain carriers in the transatlantic service have been chartered to take out cargoes from Baltimore, and it is calculated to have a sufficient depth of water for all of these vessels.

Jottings at the Ports.

The steamship Montgomery recently left the harbor of Mobile, carrying the largest cargo of cotton which has cleared from this port. It comprised 11,500 bales. The vessel was cleared by the Horsley Line.

A recent shipment from Norfolk, Va., comprised 1223 tons of Pocahontas coal, consigned to Havana. This is the first cargo of coal for the port since the war. It is understood that this is the beginning of a series of extensive shipments.

The Nicaraguan Canal.

The announcement is made from New York, and confirmed in a telegram from Wm. R. Grace & Co., that a syndicate represented by Messrs. Edward F. Cragin and Edward Eyre, of New York, has secured a concession from the Nicaraguan Congress for the construction of a ship canal, to take effect October 10, 1899. It is stated that the company would have ample financial backing, and that the Nicaraguan government agrees to make no claim for any portion of the profits of the ship canal for a period of 199 years. The syndicate is required to open communication between the Atlantic and Pacific oceans within three years.

In connection with the National Farmers' Congress, to be held at Fort Worth, Texas, December 6, it is intended to hold an exhibition. Mr. A. W. Hartman, secretary of the exhibition association, has sent a circular letter to manufacturers of farm machinery and implements and dealers in seeds, fertilizers, etc., calling their attention to the opportunity to bring their wares to the attention of representative farmers.

A correspondent of the Manufacturers' Record writes from Corsicana, Texas, that oil wells continue to be bored in this section with good results. What is known as the Staley well, recently completed, is now flowing at the rate of twenty-five barrels daily. T. C. Stribling has secured options on a large area of territory, which is supposed to be underlaid with the liquid, and will bore a number of additional wells.

Ninety-seven ovens are in blast at the Semet-Solvay Co. at Ensley, Ala., and a second battery of ovens is ready to go into operation.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

The "Black Diamond" Route.

The English people who are looking over the route of the proposed railroad being promoted by Albert E. Boone and others have been examining the harbor facilities along the Atlantic coast. They have already visited Port Royal and Charleston, S. C., and have been invited to inspect the harbor of Savannah, Ga. It is now stated that the line, if built, will extend north and south across the United States. It is claimed that the idea of the projectors is as follows: Starting either at Fargo, N. D., or Moorhead, Minn., the line will run thence to Muscatine, Ia.; thence to Peoria and Monticello, Ill.; thence to Vincennes and Vevay, Ind.; thence to Ghent, Cynthiana and Barbourville, Ky.; thence to La Follette, Knoxville and Maryville, Tenn.; thence to Bushnell and Franklin, N. C.; thence to Rabun Gap and Clayton, Ga.; thence to Walhalla, Anderson, Abbeville, Edgefield, Aiken, Barnwell, Beaufort and on to Port Royal, S. C., on the seacoast. The total distance is 1906 miles.

An Extensive Project.

In the last issue of the Manufacturers' Record reference was made to the organization of the Sabine Pass & Northwestern Railroad Co., to build a line between the Gulf and Bonham, Texas. One of the principal promoters of this enterprise is Hon. W. H. Brooker, of San Antonio, Texas. Relative to the enterprise Mr. Brooker is quoted in a Texas paper as follows: "We propose to construct first from tidewater to the Red river on the north, a distance of but little more than 300 miles. When this trunk line is completed through Texas we propose to reach out for the northwest territory, traversing the Indian and Oklahoma Territories, Kansas, Nebraska and the two Dakotas, thereby reaching into the Northwest and the Missouri valley. We propose to build and equip in first-class style, with 70-pound steel rails, under bonds of \$12,500 to the mile."

Sale of Little Rock & Memphis.

The recent sale of the Little Rock & Memphis Railroad at Little Rock, Ark., it is understood, was in the interest of the Choctaw, Oklahoma & Gulf Railroad. The purchaser was Adrian H. Larkin, of New York, who is understood to represent the bondholders of the Little Rock & Memphis. The purchase price was \$325,000. It is understood that an understanding has been arrived at between the purchaser and the Choctaw Company, by which the road which extends between Little Rock and Memphis will become a part of the system, already outlined in the Manufacturers' Record.

The connecting link will be the Choctaw & Memphis Railroad, which is now being surveyed from Little Rock to the eastern terminus of the Choctaw, Oklahoma & Gulf.

Charleston, Clendenin & Sutton.

A correspondent of the Manufacturers' Record states that valuable deposits of coal have been located along the line of the proposed extension of the Charleston, Clendenin & Sutton Railroad in West Virginia. As already stated in these columns, it is reported that financial arrangements have been made to extend the line to Sutton, W. Va., as proposed originally by the promoters. At Sutton it will connect with the West Virginia & Pittsburgh Railroad, of which Hon. J. N. Camden,

of Parkersburg, is president, and give the latter road an entrance into Charleston. When completed the Charleston, Clendenin & Sutton Railroad will be about 100 miles in length and have a monopoly of the traffic of a large portion of central West Virginia.

Old Point & Newport News Company.

The company which now controls the electric line between Old Point, Hampton and Newport News, Va., has the following officers: President, William J. Payne, of Richmond; treasurer, H. L. Schmelz, of Hampton; secretary, D. C. Zolliecker, of Richmond; board of directors, M. E. Ingalls, of Cincinnati; Alexander Brown, of Baltimore; W. J. Payne and Samuel Regester, of Richmond; W. A. Post, of Newport News; F. W. Darling and Geo. A. Schmelz, of Hampton. The new company contemplates making extensive improvements in the road, and will spend \$200,000, it is stated. Besides operating the electric railway, it will do a general lighting and power business and manufacture ice.

K. C., P. & G. Officers.

At the recent annual meeting of the Kansas City, Pittsburg & Gulf, held in Kansas City, Messrs. Robert Gillham, manager of the company, and C. A. Braley were elected directors in place of Norman B. Ream and Frank O. Lowden. The new board of directors is made up as follows: John Lowber Welsh, E. T. Stotesbury, H. M. Howe and William S. Taylor, all of Philadelphia; Alexander McDonald, Cincinnati; A. Hecksher and E. P. Merwin, New York; A. E. Stilwell, E. L. Martin, W. S. Woods, Robert Gillham, J. McD. Trimble and C. A. Braley, Kansas City. Present officers were re-elected, Mr. J. T. Nolthenius being chosen as an additional vice-president.

Dallas to Fort Worth.

According to a dispatch from Dallas, Texas, the Dallas Terminal Railway Co. has determined to cancel all outstanding bonds and mortgages to secure their payments and to hold a stockholders' meeting on December 10 for the purpose of amending the charter so as to permit the extension of the Terminal Company's lines to Fort Worth, thirty-two miles west. At the stockholders' meeting the issue of \$1,000,000 of bonds will be authorized to procure funds with which to make the above-mentioned improvements. President W. C. Conner is quoted as saying that the work of extending the terminal to Fort Worth will be begun early in January.

Railroad Notes.

B. Watkins Leigh has been appointed receiver of the Port Norfolk Electric Railroad Co.

W. F. Kean has been appointed soliciting agent of the Seaboard Air Line, with offices at Nashville, Tenn.

Mr. J. P. Glenn has been appointed freight and passenger agent of the Union Pacific, Denver & Gulf Railroad Co.

Edwin Gould has been elected president of the St. Louis Southwestern Railway Co., and Russell Harding, vice-president.

At the annual meeting of the railroads associated in the Western Maryland system, John M. Hood was re-elected president of the company.

A dispatch from Louisville, Ky., states that the recent sale of the Richmond, Nicholasville, Irvine & Beattyville Railroad has been set aside and another sale ordered by the court. The decision was handed down on the petition of Messrs. Shanahan & Co.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

Southern Cotton Mills and Cotton Manufacturing.*

By Edward B. Wilbur, Newberry, S. C.

As this subject has been thoroughly investigated by many members of the association, it appears to the writer little, if anything, new can possibly be presented, but having consented to supply an article upon the subject, I do so, fully intending to confine myself to data collected by investigation, correspondence and otherwise, which is presented unbiased by personal opinion. Very much of that written concerning manufacturing in the South has been largely exaggerated, for which there is no excuse. In making that statement I refer to both Northern and Southern writers; for, if we were to credit all written describing the advantages of the Southern mills over their Northern competitors one would conclude that those in control of Southern mills live in clover the year round; that in order to earn a dividend all that is necessary is cotton and machinery; that if these two were brought in contact the dividend would be forthcoming. Possibly these happy results have previously been obtained with slight exertions, but in this year of grace, to obtain satisfactory results it takes as careful and conscientious watchfulness in Dixie as in New England.

Now, what are the advantages we hear so much of, and do they exist to the extent claimed for them by many writers? First is the cost of construction and equipment. Brick mills of the best material and all modern conveniences have been erected at a cost ranging from forty cents to fifty cents per square foot, and at a total cost of construction and equipment ranging from \$17 to \$20 per spindle, local conditions having been somewhat unfavorable, together with the fact that the machinery cost 10 per cent. more than it would in New England. A number of the above-mentioned mills were equipped with the latest up-to-date machinery for about \$14.25 a spindle, which is higher than the same would have cost at railway centers in New England. Town taxes in North Carolina and South Carolina average one-half of 1 per cent.; city taxes average three-quarters of 1 per cent.; Georgia and Alabama taxes may be voted remitted for a term of ten years. In Arkansas the aggregate taxes cannot exceed 2 per cent. for town, county, State and school.

Cost of Fuel and Power.

Pocahontas coal costs the North Carolina mills \$3.25 per ton, while Tennessee coal is delivered at \$2.95 per ton. In South Carolina Pocahontas coal costs \$3.75 per ton, while Tennessee coal can be secured from \$2.80 to \$3.20 per ton. Georgia uses Tennessee generally, costing \$1.90 to \$2.10 per ton. In Alabama coal costs from \$1.15 to \$1.35, and it is stated one Alabama mill is using local coal which costs from 75 cents to 90 cents per ton.

The development of water-power for cotton manufacturing in the South will not be carried on to any great extent in

the future, as steam-power is proving itself much more reliable and fully as economical. If electricity is to become very much of a factor, then this statement will need to be modified. Southern manufacturers have by experience learned that the actual cost of their water-power is only to be arrived at when compared to the relative earning power of a steam plant and water-power plant of equal capacity; and experience has demonstrated that water-power is cheaper only under very favorable conditions. A 25,000-spindle mill can be built in the South, we will say, for \$18 per spindle. Its fuel for a 1300-horse-power engine will cost \$18,000 per annum, which is \$13.84 per horsepower per year. The most recently-built water-power mill of that size, constructed at a cost of \$25 per spindle, required an investment of \$250,000 in developing the water-power; this large investment earned only what it saved, viz., \$18,000, or 7.2 per cent. The general opinion is that the Southern water-power is, as has been demonstrated in New England, very much overrated, and only under the most favorable conditions is it at all to be compared to a modern economical engine and cheap fuel. Probably \$15 per horsepower is a safe estimate for the average Southern mill using water-power. Steam-power will cost from \$12 to \$14 per horsepower per year, according to favorable or unfavorable conditions.

Cost of Manufacturing.

Proportionate elements of cost for 40"-2.60 cloth:

Raw material.....	61.38 per cent.
Labor.....	15.09 "
Fuel and fixed charges.....	13.61 "
Commissions, discounts, etc. 9.92 "	

100 "

The following table will indicate the proportionate cost of incidentals, etc.:

Fuel cost.....	18.10 per cent.
Supplies.....	17.11 "
Freight charges on finished goods.....	7.00 "
Repairs.....	9.58 "
Salaries.....	10.34 "
Real estate.....	2.67 "
Insurance and taxes.....	4.93 "
Interest and commissions... 30.27 "	

100 "

These last figures represent the yearly charges of a steam-power plant doing a business of \$700,000.

AVERAGE WAGES PAID PER DAY IN THE FOUR STATES WHICH COMPETE WITH NEW ENGLAND.

	Ga.	N. C.	S. C.	Ala.
Picker hands.....	75c.	68c.	65c.	60c.
Card hands.....	95c.	80c.	85c.	72c.
Speeder hands.....	90c.	75c.	78c.	80c.
Spinner hands.....	75c.	65c.	56c.	54c.
Spooner hands.....	90c.	78c.	78c.	60c.
Weaver hands.....	100c.	85c.	90c.	90c.
Yard and general help.....	70c.	68c.	65c.	60c.

The above table will come very near the average wages in the four States. There are without doubt slight variations from the figures given, but not of sufficient extent to alter the general average. The hours of labor vary in the above four States fully as much as the wages paid.

The best Southern mills on print goods with common looms will have an advantage of two cents per pound over the New England mills using similar machinery. We frequently read in Southern papers of the South's advantage of cheap cotton, estimated from one-half cent to three-quarters of a cent a pound. These writers fail to remember that a large proportion of the goods manufactured in the South are first sent to New England for finishing, and then possibly returned to New York for distribution, thereby losing the advantage gained on the low-price cotton. A mill producing coarse goods will generally use local cottons, and may thereby have this advantage of one-half cent to three-quarters of a cent a pound.

But suppose the character of the goods demands a better cotton than is found in the near locality; for instance, if cotton has to be freighted from Arkansas or Tennessee to South Carolina, this advantage would nearly disappear, and if the

freight charges on finished goods to New England be added to its cost the Southern mill is then laboring under a disadvantage. I fail to see any climatic restrictions whatever of Nos. 40s and under not being spun and successfully woven in any part of the South, and when the time comes, as it will, for spinning finer numbers, I apprehend artificial conditions suitable for such manipulations will be possible. This has been the experience in the East India mills, where the excessive heat of summer gives way to artificial conditions within the factory. For ten years the South should make but little effort to spin fine as No. 40s, simply because the help will not have had sufficient experience. Meanwhile there will be little need of the South undertaking to spin finer numbers, as there will be no demand for it; but on print cloth numbers the help will during this time develop dexterity not exceeded by any class of operatives, foreign or native. That the South will in ten years from now produce with its native operatives the bulk of seven-yard standard print goods there can be no question. When this assertion is denied we thereby acknowledge that the French-Canadian, Poles, Russian-Jews and Portuguese, who are now being introduced into New England mills, will accomplish more, and have a higher mental make-up, than those who are natives and are acquainted with our customs and ideas.

Conditions of Manufacturing.

Dog-day weather, so-called, has no terrors for the Southern spinner, even without the use of humidifiers. With their use, however, the help labor with much less fatigue, not so much from better running work as from being in a more healthful atmosphere. One singular fact is that we seldom hear of heat prostrations, either from outside or inside labor. This condition, I really believe, gives an advantage to the Southern manufacturer not possessed by those in other sections, and is accountable for the continued vitality of our operatives during the severe heated term. We may be asked to explain why it is that so many more hands are required in a Southern mill than in a New England one. In weaving departments our Southern help will manage successfully as many looms as in any cotton-manufacturing country; in spin and card departments this is not always the case, and is to be expected when one considers the length of time our help have been in the mill. Some mills are compelled by circumstances over which they cannot exercise control to give employment to children of rather tender years. This is the only class of Southern help not considered economical, and this is a difficulty which will in time adjust itself. One will always find in Southern cotton mills a far greater proportion of young persons than will be seen in a New England mill; for instance, on drawing machinery and around cards boys of fourteen and eighteen years are used, when in Northern mills help of not less than eighteen years and upward will be found around such machinery. With these few exceptions, hand for hand, we obtain from each operative fully as satisfactory results in the run of a year as is obtained elsewhere.

The following table of 1896 indicates the proportion of persons employed in Massachusetts and North Carolina cotton mills, and will probably represent the South in general, as well as in Massachusetts:

	Mass.	N. C.
	Per Cent.	Per Cent.
Men employed.....	43.6	29.1
Women employed.....	50.6	45
Children employed.....	5.8	25.8

Southern Operatives.

One fact which I have noticed repeatedly is, that however countrified a

family may be when they first appear for work at the mill, it takes from one-fourth to one-half less time to make good hands of them than it does to train farm hands of foreign extraction into operatives. This account for in two ways. However unpolished they may first appear, it takes but a short time to discover that their intelligence is as bright as the proverbial new dollar. As the soil here is generally very free of rock, a person who has spent years upon the farm will have a more erect carriage and hands which are but little calloused by farm toil. Those of you who have made operatives from farm hands of foreign extraction will at once recognize the latter as an evil with which you have had to contend when breaking in a lot of green help. Our New England operatives point to the low wages paid the Southern help as indicating a low order of intelligence. Nothing could be farther from the truth. We should remember that these Southern operatives are the children of those men who for four long years battled for what they thought right; that they lack education in many instances, none will deny; that they are not weak mentally, one very soon learns if he goes among them with any such idea. They are poor, and the cotton factory is to them just what it was to the New England communities seventy-five years ago, when cotton manufacturing began to be a factor in that section. I am inclined to believe, however, that the lack of interest they indicate in labor laws and labor agitators is very largely accountable for the New England cry of their not being intelligent. They realize that their present condition is a vast improvement over what it was before cotton mills were introduced, and, unlike the New England foreign operatives, they do not look upon the mill officials as enemies, but rather as personal friends. This accounts for the kindly feeling existing between the Southern mill officials and their operatives. While these favorable conditions are maintained Southern manufacturers should have little fear of their competitors. We see no cause for questioning the continued existence of our present supply of operatives, at least not for the next dozen years. That the colored race can ever be made cotton-mill operatives I most emphatically question, and I regard all efforts in that direction as certain to result in financial disaster to the parties interested. There are advantages which the New England manufacturers now have over competitors that will ultimately be gained by the latter, viz., his greater experience in the economies of mill construction, equipment and management, his abundant capital and his ability to secure whatever money he may be called upon to borrow at 2 per cent. to 3 per cent. less interest charges; his nearness to all necessary supplies and repairs, and the comparative low rate of freight charges from the mill to the dyeing, bleaching, printing and finishing establishments, and at this stage the ability to dispose of his goods on a commission, often of one-tenth what it cost the Southern manufacturer. I would estimate the present net advantages of white-cloth mills in Georgia and Alabama at 30 per cent., divided as follows: 10 per cent. for longer hours and new machinery, 20 per cent. for cheaper fuel, lower labor costs, lower taxes and cheaper cotton. I would rate these items as the maximum for mills constructed during the past five years, and not in all of those, for local conditions must always be taken into consideration, and these are as apt to upset our calculations South as elsewhere. For white-cloth mills throughout the South which have been constructed over five years it is doubtful if their pres-

*Read before New England Cotton Manufacturers' Association, at annual meeting, September 27-29.

ent net advantages would reach 20 per cent. There are manufacturers in Georgia who do not admit or either consider that they have any advantage whatever over the New England manufacturer, yet we never learn of the conditions in Georgia as being considered unfavorable to cotton manufacturing, but rather the reverse.

A General Summary.

That cotton manufacture of medium and coarse numbers must come South is as certain as fate, and the constant changes West and South of New England's iron, leather and furniture industries, which have been going on for a dozen years, and from much the same causes as now exists in the cotton industries of New England, would seem to prove the changes natural rather than otherwise. Evidently what this country needs, at present, at least, is a complete cessation of all mill building, and an opportunity given for Fall River to recover from its Rip Van Winkle condition. The constant and reiterated statement that the present low price of print goods is caused wholly by Southern competition will not bear examination, unless we are prepared to admit that 5000 Southern print-cloth looms, producing 40,000 pieces per week of 28" 64x64 seven-yard goods, govern the price at Fall River of 230,000 pieces of similar goods produced on 32,000 looms. It is probably due to the longer hours and large number of mills on print goods in New England outside of Massachusetts. The actual danger of Southern competition to Massachusetts mills on print goods is not yet present, but near at hand. For causes of the present general depression we must look elsewhere, and when we compare our annual export of \$20,000,000 worth of cotton goods with England's \$330,000,000 worth, we can but believe it is our lack of enterprise in not securing a share of these foreign markets. While we now manufacture 90 per cent. of what cotton goods we need, we must not only manufacture the other 10 per cent., but get our full share of what the other fellow is doing. This will be brought about as soon as our New England competitors realize the absolute need of a change of methods in disposing of their productions. Those mills in Fall River which paid 3 per cent., and New Bedford, which paid 7 per cent. dividends in 1897, are not in danger of being dismantled at present, but rather indicate that mills on fine numbers have no great difficulty in earning a fair dividend. Writers on Southern cotton manufacturing frequently mention our mild winters, and undertake to prove a decided climatic advantage of the South over New England. These writers fail to remember that the heated term of the Southern summer is far longer and much more severe than that of New England, and that of necessity the operative must have less vitality at its end than those of the cooler climate. I believe that in this respect, on account of the severe Northern winters, neither section can at the end of a year show any material advantage whatever, so far as climatic conditions have a bearing on cotton manufacturing. Cotton mills of Virginia, Maryland, Pennsylvania, New Jersey and New York work under nearly identical conditions as those existing throughout nearly all of New England. The two former may be considered as Southern mill States, in which I am informed wages equal to those of New England are paid, and from which satisfactory dividends are annually secured. The chief difficulty with New England mills is that there is too much paternal legislation and continued efforts to use antiquated machinery. These, added to certain exorbitant fixed charges,

are sufficient in themselves to cause not a little of the present inconvenience through which many of New England's mills are now passing. The present advantages which Southern manufacturers have (the full benefit of which is not always secured) are cheaper mill sites, low taxes, cheaper building material, longer hours, lower wages, cheap fuel, cheap cotton when secured in the local market, aided by a low rate of living expenses and necessities of life, and what is of as much importance as all the above, freedom from labor agitators. When the South has thoroughly learned the economies of cotton manufacturing and can finish its own goods, as it should and will eventually, then, and not until then, will the competition be such as to cause uneasiness. At present New England is benefited \$10,500,000, which the Southern mill manufacturers pay for the finishing of their goods, while the railways are recipients of \$3,500,000 from the same sources on freight charges to New England, which, kept in the South, would annually add 600,000 new spindles. For some unaccountable reason there has previously existed a disposition to value Southern manufactured goods lower than those from other sections. Hitherto this has resulted in a loss to those producing such goods. These values the Southern manufacturer is now refusing, and is demanding full values with his competitors, and generally is securing what he demands. If the South, which produces 60 per cent. of the world's cotton supply and manufactures only one-twentieth of it, should remain stationary so far as an increase of its manufacture is concerned, it would indicate lack of enterprise in so doing.

The First Round Bale of Cotton in North Carolina.

[Raleigh (N. C.) Post.]

There is on exhibition at Irby & Young's display, in Floral Hall at the fair, the first round bale of cotton ever ginned in North Carolina. The round-bale system of ginning cotton is now thoroughly established, and there is an active demand in all cotton-consuming countries of the world for cotton marketed by this process. In view of the fact that it is only a question of a short time when the cylindrical bale will take the place of the bulky square bale, the exhibition of this the first round bale ever ginned in the State will be of great interest to all. The bale is from the Weldon round-bale ginnery, and sent here by Major James W. Wilson, who is one of the operators of this gin. Major Wilson is well known as having been the promoter of several of the largest enterprises connected with the history of the State. It was his engineering skill that harnessed the Blue Ridge and Cumberland mountains with railroads. It is not generally known that he was the first person to introduce the electric light in the State. The first introduction of the steam drill was also done by him. The first use and manufacture of dynamite in the South was during the construction of the Western North Carolina Railroad, under the supervision of him. Lastly, but not least, he is the first to introduce the cylindrical bale for cotton, which will supersede all presses and baling processes. Major Wilson has never been a Yankee, but if he had he would have made a good one. All the great enterprises he has inaugurated in this State has been of untold value to our people, and we bespeak for the round-bale system of marketing cotton a great success. Every cotton-grower, cotton-mill man and all others interested in the progress of the State should not fail to inform himself of this system of baling cotton, which is of such

great value to themselves and to the South.

Low-Priced Cotton—Mr. Edmonds' Views.

[The Cotton Ginner's Journal, Waco, Texas.]

We print in this number Mr. Richard H. Edmonds' recent article on cotton-overproduction, or abundant production and low prices. The article challenges the most thoughtful analysis and consideration. In his treatment—which is bold and largely original—of the subject, Mr. Edmonds strengthens his reputation as a forceful thinker and a publicist. His boldness, we may add, would be audacity coming from a man of less conservative habits of thought, for he takes the high ground that an immense crop may, in reality, be an advantage to the South. We fancy that a majority of growers may not, at first glance, sympathize with this view. But let us ask in all candor (if his position is deemed untenable) what is offered instead. "Reduce the acreage" is practically the only answer that will be forthcoming.

Is reduction, to a degree that will meet the emergency, practicable? We must admit that any answer to this will be based on faith and hope. Nobody knows until a test has been made. One could hope otherwise, but those who know the Southern growers well, who understand the situation, will, we believe, be inclined to doubt the feasibility of intelligent, general co-operation on the part of growers. Measurable reduction, we fear, is the best that can be hoped for. What can be secured is purely conjectural. And as to reduction, general and material. Would not that, as Mr. Edmonds fears, stimulate greater effort in those countries where cotton as good or better than the South produces is grown and convert them into formidable competitors? If they are not so now, it is simply and purely because the steadily-increasing output of America renders such rivalry unprofitable. There are so many sections where cotton, under favorable conditions, could be grown profitably. The future holds grave possibilities, which may or may not menace the South's supremacy. The Southern cotton-grower gave but incidental thought to Gen. Sir Herbert Kitchener's march up the Nile, but that movement had its significance for the South, sealed when the Sirdar planted the British-Egyptian colors on the walls of Khartoum. England does not acquire and hold countries for glory alone. Under the impulse of her genius and capital the Soudan may supplement Egypt's yield, as a land where Soudanese labor may grow cotton even cheaper than Texas can, and transported in British bottoms, lay it on the quays at Liverpool, satisfied with three cents a pound. Great Britain knows the resources of the Soudan, and if cotton, by artificial or other unusual means, should be forced up to an artificial price we may expect to find Egypt and India, English brains and money the inspiration, coming into view as competitors—and if they ever come it will be to stay. Such a culmination might, a decade hence, force the Southern grower to market a 10,000,000 or an 8,000,000-bale crop at four or even three cents—for the crop of other lands could reach the world's total to 12,000,000, 14,000,000 or 16,000,000 bales. This is not a fanciful postulate. There might be worse things for the South than five or four-cent cotton, and Mr. Edmonds deserves attention when he suggests that the South should think twice before impairing her advantage of supremacy and control. Happy solution will it be if there is some reduction in acreage. We do not believe the pendulum will swing too far that way. Happy outcome will it be if diversifica-

tion of crops, if better cultivation, what the scientists call intense farming, shall ensue as a result of the South's grappling with this momentous problem. Beneficent outcome if cotton manufacturing in the South is stimulated and developed. Within a decade the Isthmian canal will bring the Far East thousands of miles nearer to us, and in that land are 400,000,000 human beings who will want our cotton to clothe the millions. In the Orient there will spring up a cotton market rivaling Liverpool. The South should and we believe will furnish the cotton and the cloth for this market, and there will be profit in both. The cotton-grower, truly, is confronting grave questions, but they need not overwhelm him. By patience, thrift, intelligent effort and resolute purpose to reach out and claim his own he can, "out of this nettle, Danger, pluck the flower, Safety." "Poetic, that, but not practical," we hear a kindly critic say. In a word, then, to be practical, the South need not hope, under normal conditions, for the return of eight and ten-cent cotton. Let all who will reduce acreage, but as a whole let us remember that control of the world's cotton is not to be surrendered lightly. Diversification is mitigation; in new methods of handling cotton for market is mitigation; in the faith of manufacturing development that will come is mitigation. If dealt with bravely, intelligently, patiently, the solution will be found and better things will come, too. God Almighty never deserted a people who faced their social and economic problems bravely, and it is a reversal of the laws of nature to gravely consider the curtailment of a product so vitally useful to mankind as cotton.

CYLINDRICAL COTTON BALES.

Advantages of the New System Over the Old—Increased Exports.

[New York Journal of Commerce.]

The growth of the cylindrical cotton bale in favor is a subject of general comment among the members of the trade. As an illustration of the rapid advance which it has made in the last year the following figures may be of interest: During the season of 1896-97 4300 bales were handled, while during the season of 1897-98 about 34,000 bales were put up. The output of the present year to date has been 70,000 bales, and it is estimated that the entire business of the year will amount to 250,000 bales.

With regard to the benefits of the cylindrical bale and its advantages over the old square bale the recent experiments of William C. Lovering, of Boston, a prominent cotton-goods manufacturer, are interesting. Mr. Lovering claims that the lap or bat which comes from the new-style bale in a continuous roll or sheet is much more uniform than is possible under the old square bale. By the old method it was necessary to beat out the cotton, as it came to the mill unprepared, into a bat similar to that which now comes from the round bale. Thus by the new process the cotton goes to the mill partly manufactured, and the necessity of much expensive machinery is obviated. The beater and lapper will thus be useless where the round bale is employed. These machines, it is claimed, weaken the fiber, which is prevented by the use of the continuous lap as it comes from the cylindrical bale.

One interesting feature about the employment of the round-lap bale is the favor with which it is considered by the insurance companies. The St. Louis board of underwriters passed unanimously recently in favor of permitting the storage of the round bale in general merchandise warehouses, paying the same rate. This decision is due to the fact

that the density of the cylindrical bale (thirty-five pounds to the cubic foot) is such that the fire risk is presumably much decreased.

One other important point concerning the cylindrical bale is its earning capacity. The average carload of cylindrically-baled cotton weighs 52,000 pounds, though large cars have been loaded with 68,000 pounds, and one car is claimed to have reached the total of 72,226 pounds. This is to be compared with an average load of 13,000 pounds uncompressed cotton in square bales, or 24,000 pounds compressed. A representative of this journal was shown recently a copy of a freight bill on a single car which showed an earning from Texas to East St. Louis of \$514.71, and from Texas through to Boston freight charges amounting to \$754.91.

Exports of cylindrical bales of cotton have increased rapidly during the past year. Cotton thus put up is, it is claimed, being used by sixty or seventy mills in England alone. Exports are being made in large quantities to the following countries in the order named: Italy, England, Japan and Russia. According to a member of a company interested in the process about three-quarters of the cotton thus baled is going abroad. It is taken for export at 1 per cent. instead of 6 per cent. tare, as in the square bale. Consular reports make frequent reference to the reception of the round bale. Steamships are generally quoting different rates on the round and square bale on account of the greater density of the former.

Growing in Favor with Farmers.

The Oklahoma Round Bale Cotton Co., writing from Shawnee, Oklahoma, to the Manufacturers' Record, says:

"This is our first season with the round bale, and we are pleased to say that we are more than satisfied with it. We have put up 2700 bales so far, and hope to get 10,000. Everyone seems to like the idea except the yardmen, the buyers and ginners that have the square bale. Of course, the compresses fight the round bale. The railroads are getting to be our friends, as we can load every car up to its capacity. We are loading as much as 70,000 pounds in a car, while but 12,000 to 14,000 pounds of uncompressed can be put in a car and 30,000 to 40,000 pounds of square-bale compressed cotton. The density of the round bale is thirty-five to forty pounds to the cubic foot, and on the old compresses is from twenty-two to twenty-five pounds. Our press at this place makes a bale thirty-five inches long and twenty-two inches in diameter, weighing 270 pounds. The American Cotton Co. got this size press at the recommendation of the spinners, and I think it will be universally used, as it is more convenient to handle. When we first started this season there was some objection by the farmers, as they had been told that it was controlled by a monopoly, and all kinds of stories were put out; but when they see the working of the round-bale system and have the matter explained they soon find out that it is to their interest. When they see that it is a package that goes from the ginner direct to the spinner, doing away with all the middlemen, they see it is to their advantage to encourage it, and we find a great many who will give us the preference. We are satisfied it will be a big success."

The Cotton Movement.

In his report for October 28 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that during this season the amount of cotton brought into sight was 3,032,900 bales, an increase of 224,140 bales over the same period last year. The exports were 1,298,415 bales,

an increase of 145,953: takings by Northern spinners 257,907 bales, a decrease of 148,633; by Southern spinners 226,190 bales, an increase of 6113 bales.

Looking for Capital.

In a letter to the Manufacturers' Record Mr. John L. Dew, of Latta, S. C., writes as follows:

"I see some New England mills shutting down, while Southern mills are doubling time, running two forces, day and night. Now, we are located in one of the prettiest cotton sections of the world. I do not mean that we could make the most, but our average staple is so high. I heard an experienced cotton manufacturer say that the mills at McColl, S. C., just had a picnic on account of their location and the grade of cotton. I think that we have some of the advantages of McColl, but we are short of capital. We want to furnish the site, the cottages and the main buildings; in fact, everything except the machinery. Cannot you point us to some idle machinery or to some idle capital that will put in all the machinery and let us start the work?"

Improvements to Cost \$100,000.

The stockholders of the Reedy River Manufacturing Co., of Reedy River Factory, S. C., held a meeting at Greenville, S. C., during the week. The company was entirely reorganized, Mr. W. E. Beattie, of Greenville, S. C., being elected president and treasurer, and a temporary board of directors chosen. The latter are Messrs. J. D. Charles, James A. Finlay and W. E. Beattie. The capital stock of the company will be increased from \$90,000 to \$200,000, and the additional capital so acquired will be expended on some important improvements, including new buildings, new machinery and other modern accessories of a cotton mill. The company will apply for a change in its charter allowing increase of capital to \$250,000.

A \$125,000 Calico Mill.

Application has been made for the incorporation of the Palmetto Cotton Mills, of Columbia, S. C., the capital stock of the corporation being \$125,000, divided into 1250 shares of \$100 each. The incorporators of the enterprise are Messrs. Allen Jones, T. J. Harper, W. P. Roof, of Lexington, S. C.; J. R. Hayes, G. A. Shields and Julian B. Friday, of Columbia, S. C., and C. M. Pegram, of Elkin, S. C. The company has selected a site for its plant, and will arrange at once for the erection of a mill for the production of a variety of cotton calico goods. An equipment of machinery has been contracted for, and the power to operate same will be furnished electrically by the Columbia Water Power Co.

Textile Notes.

It is said that the Buena Vista Cassimere Mills, of Buena Vista, Va., will be enlarged and their capacity increased. Additional buildings are to be erected.

The Reedy River Manufacturing Co., of Reedy River Factory, S. C., contemplates increasing its capital stock by \$50,000. The capital now being \$90,000, the increase would make it \$140,000. It has not been intimated as yet why such an increase is thought of, but presumably improvements are under consideration.

The Anneslow Cotton Mills, of Stone Mountain, Ga., has added a knitting department to its plant. The department is located near the spinning mill, and has a daily capacity of 100 dozen pairs of men's hose, employing twenty operatives. The company has in view the installation of more knitters, and is now in the market for six or eight full automatic hosiery machines.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,

Baltimore, Md., November 3.

During the past week the local lumber market has not developed any features of interest out of the regular line, and the tone of trade continues quiet in many departments of the industry. Receipts of lumber continue fair, and stocks of Georgia and North Carolina pine are ample for the demand. In air-dried lumber sales have been light, and the demand mostly from boxmakers and planing mills. Yardmen and builders are not purchasing in large lots, and the volume of trade from these sources is meager. There has been a good demand for kiln-dried North Carolina pine from out-of-town buyers, and prices are firm, with stocks somewhat broken, desirable grades being scarce. In white pine there has been a better trade during the past week, and sales are reported at outside figures. The movement in hardwoods in a local way has been more satisfactory, a good demand coming from nearby towns. Furniture manufacturers continue to purchase freely, and from other woodworking concerns there is a fair inquiry. The foreign demand is good, but the scarcity of vessels restricts business, and the advance in freights from 17 and 18 cents to 22 cents per hundred pounds leaves the shipper unable to do business unless the foreign buyer will stand the advance. Leading houses in the trade do not expect much business until cotton, grain and provision shipments partially cease and rates return to the normal.

Savannah.

[From our own Correspondent.]

Savannah, Ga., October 31.

The local lumber market continues to show a moderate degree of activity, and the demand from the usual sources indicates a fairly active shipping season. In the open market there is a fair offering of desirable grades, for which prices continue very steady, the market on Saturday last closing quiet, but firm.

Minimum yard sizes, \$9.50; car sills, \$10; difficult sizes, \$11 to \$12; ship stock, \$15 to \$16.50; sawn crossties, \$8.25; hewn crossties, 30 to 31 cents per tie. At nearby Georgia ports trade is active, with liberal shipments of lumber and timber, while at all interior milling points the demand is good, mills being generally well supplied with orders. During the past week the following shipments of lumber were reported: Schooner George Tulane, Jr., for Portland, Me., with 374,402 feet of pitch pine; schooner Stephen L. Loud for Baltimore with 405,629 feet, and schooner Jennie Thomas for Baltimore with 504,318 feet. New York steamers cleared with 520,000 feet, Boston steamers with 138,000 feet and Baltimore steamers with 533,000 feet. The schooner C. C. Wehrum cleared with 298,074 feet of pitch-pine lumber for New York. The freight market is steady, with values unchanged. It is stated that the proposed line of steamships from this port to Havana and Porto Rico has been abandoned for the present, as sufficient freight could not be secured here to guarantee the expense of the first trip. It is expected that a trade will be worked up in the West and through freights will be offered to the steamship line. Should this prove successful, a line of steamers will be put in the trade. Coastwise rates on lumber remain steady and unchanged. Rates from this and nearby Georgia ports are

quoted at \$4 to \$4.75 per thousand feet. Charters reported are the following: A schooner from Darien to New York with lumber at \$4.75, and a schooner from Brunswick to New York with lumber on private terms. The schooner Charles Davenport, 1157 tons, was chartered last week to load ties at Brunswick for New York at 14½ cents.

Charleston.

[From our own Correspondent.]

Charleston, S. C., October 31.

The week under review has been moderately active in nearly every branch of the lumber industry, and the demand from the usual sources is showing a slight improvement. At Georgetown and other milling sections there is considerable activity reported, and orders are coming forward in better volume. The better grades of lumber continue to sell readily, and prices are generally steady, while inferior grades are slow sale. Stocks of lumber at all points are not excessive, but are ample for the moderate demand existing at the moment. Merchantable lumber is quoted at \$14 to \$16 for city-sawed, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. There is a fair demand for shingles at \$4 to \$6 per thousand. The movement among all woodworking concerns shows improvement, and sash, door and blind factories are all busy. There is also a good demand for lumber from builders, as there are a number of residences being erected, besides many improvements going forward throughout the city. During the past week the clearances were as follows: Schooner Anna for New York with 375,000 feet of lumber. The steamship Oneida cleared for Boston with 12,200 feet of lumber, and steamship Carib for Boston with 12,500 feet. The steamship Veva for Liverpool took out two cars of lumber and other cargo. The shipments of lumber from this port since the 1st of September amounted to 3,627,481 feet of lumber, against 5,461,390 feet for the corresponding period last year. Lumber freights are quiet, with rates unchanged.

Mobile.

[From our own Correspondent.]

Mobile, Ala., October 31.

The week under review closes the operations in lumber and timber at this port for the first two months of the commercial year, and the volume of trade has so far been satisfactory to manufacturers and shippers. During the above period the shipments as reported were as follows: Lumber 4,977,734 superficial feet, against 3,346,728 last year; sawn timber 1,319,912 cubic feet, and for the same period last year 36,928 cubic feet; hewn timber 153,703 cubic feet, against 57,510 cubic feet in 1897; of other woods shipments of oak amounted to 20,249 cubic feet, ash 4284 cubic feet, shingles 30,000, pickets 475,000, making a grand total of 26,212,604 superficial feet. The market at the moment for both lumber and timber is fairly active, with a good general demand from both local and foreign sources. Sawn timber is quoted at 10% cents per cubic foot, and for hewn timber 12 cents per cubic foot. The foreign demand for timber continues moderate, and shippers are cautious in their movements, while orders now on the market are being filled at fair prices. The reports from markets in the United Kingdom and Continent are not by any means discouraging, and last sales of Mobile and Pensacola cargoes show more satisfactory prices. The London Timber Trades Journal of October 22, in reviewing the market, says: "Importers generally have been busying themselves with their new arrivals, which have come forward very freely during the

week, and in London particularly the state of the docks, although not at present approaching the chaos of last year, is sufficiently congested to lead to the belief that before the close of the season is reached that undesirable condition of things may be attained, if not surpassed. There is a considerable quantity of stuff yet to come forward, and many large steamers are due, or imminent, although if navigation closes earlier than usual, as now seems probable, a good deal of it may have to winter over instead of coming on the market. The firm tone for red deals is still noticeable, but the market generally is without change, the large consumption everywhere evident practically checking any further fall in prices. There is no alteration in the mahogany and hardwood trade; the tone of the market is firm and buoyant, with a fairly good private business passing at last sale rates. In the absence of public sales the wholesale trade has been in abeyance for the time being, but there are strong evidences of an improved demand, and with the increased supplies now coming to hand the outlook is very encouraging. The import has been two full steamer cargoes of Honduras mahogany and cedar from Belize, with shipments of African mahogany, East India teak and Porto Rico satinwood landed from sundry steamers. A mahogany and hardwood sale by auction is advertised for Wednesday next at Winchester House, when the balance of a cargo of Honduras, with parcels of African mahogany, American walnut logs and lumber, East India and Porto Rico satinwood and other hard and fancy furniture woods will be submitted." The lumber trade is good, and there is a fair demand from domestic and foreign sources. The inquiry is good from South and Central American ports, with a good outlook for West India business. Saw mills at this port and at milling sections in the interior of the State and in Mississippi are generally running on full time, with good shipping prospects. Prices are generally firm for desirable material, with stocks showing no excessive accumulation. During the past week the bark Abyssinia cleared for Bahia, A. R., with 837,297 feet of lumber. The freight market is steady, with rates unchanged. The schooner St. Croix was chartered last week to load at this port with lumber for the north side of Cuba on private terms, and British bark Robert S. Besnard from Pensacola to Rio Janeiro with lumber at \$15.50, \$2 form.

Lumber Notes.

Messrs. Rawlings & Mangus, Vesuvius, Va., are in the market for 35-foot poles.

The schooner Charles W. Wolster cleared last week from St. Mark's, Fla., with a cargo of 2,000,000 shingles for New York.

Messrs. C. D. Franke & Co., of Charleston, S. C., want by first of January one carload of first quality seasoned hickory axles in rough, varying in size from 3x4 to 5x6x6½ feet in length.

The British steamship Beatrice was cleared last week from Pensacola by the Gulf Transport Co. for Antwerp with 60,000 feet of oak lumber, 700,000 feet of pitch-pine lumber and 180,000 feet of sawn timber and other cargo.

The Pittsburg Chestnut Lumber Co. was chartered last week, with a capital of \$10,000. The principal office will be at Morganton, W. Va. The incorporators are E. G. Craig, J. G. Strakes, R. S. Donaldson, Lawrence Barr and John Sidnell, all of Pittsburg, Pa.

The Gregory-Coe Lumber Co., of Stanton, Ala., has been incorporated for the last fourteen years, and is actively engaged in supplying its trade. The com-

pany has a large plant for the manufacture of long-leaf yellow-pine lumber at Stanton, in Chilton county, Alabama.

The lumbermen of Fort Smith, Ark., are much exercised over the enactment of a bill by the Choctaw council prohibiting the further sale of timber for milling purposes. If the bill is not repealed it will drive all the saw mills from the Choctaw nation, amounting in value to millions of dollars.

The receipts of building material at New Orleans for the week ending October 28 were as follows: Lumber 1,611,000 feet, shingles 150,000, oak staves 80,300 and cypress staves 34,500. The total receipts of lumber for the season amounted to 19,884,700 feet, against 18,224,000 feet last year.

It is stated that the Waycross Barrel Manufacturing Co., of Waycross, Ga., leased by the Palmer Manufacturing Co., declares annual dividends of 14 per cent. for its stockholders. Its officers are H. Murphy, president; Warren Lott, vice-president, and A. M. Knight, secretary and treasurer.

The dry-kilns and the main portion of the storage sheds of the Louisiana Cypress Co., of Harvey, La., were destroyed by fire on the 26th ult., together with 500,000 feet of cypress lumber. The loss is estimated at \$20,000; partially insured. The kilns and sheds will be rebuilt during the winter.

The receipts of lumber at St. Louis for the week ending October 26 aggregated 16,962,000 feet, which is a gain over the same week last year of 96,000 feet. The shipments of lumber were 11,448,000 feet, being a gain over the corresponding week last year of 1,044,000 feet. The receipts of lumber were lighter than the preceding week, but shipments were heavier.

Mr. Charles A. B. Seals, of Beaumont, Texas, closed a contract recently with the Pickering Lumber Co., of Pickering, La., which covers a period of four years at a cost of about \$60,000 a year, and the handling of 2,000,000 feet of logs per month. Pickering is on the Port Arthur route, near Leesville, and the company has 32,000 acres of land in one body.

The demand for railroad ties at Beaumont, Texas, has been quite active recently, the Pecos road purchasing over 100,000 ties, besides large quantities of bridge timbers. The Texas Western road is also buying largely, and from the Northwest some large orders have been recently placed at the Beaumont mills for car-shop material and betterments.

The Ensign-Oscamp Company was chartered last week for the purpose of manufacturing lumber. The principal place of business will be at Huntingdon, W. Va. The capital stock is placed at \$100,000. The incorporators are Ely Ensign, J. W. Ensign, J. C. Dickey, of Huntingdon; S. P. Oscamp, of Cincinnati, and F. E. Canda, of New York.

Messrs. A. W. Robinson & Co. will soon begin the erection of a crate and basket factory building at Sharptown, Md., to take the place of their present factory. The new plant will be much larger than the present one, and will be equipped with the latest improved machinery. It will be located near the Nanticoke river, and will cost about \$10,000.

A chapter of the report of the commissioner of labor for North Carolina devoted to the lumber mills of that State gives a list of 209 important lumber mills in the middle and western counties. The minor mills are not included in the report. As to the kinds of lumber in most demand 65 per cent. of the mills report pine, 30 per cent. oak and 5 per cent. poplar.

The Columbia Lumber Co.'s plant, of

Columbia, S. C., was destroyed by fire on the 27th inst., together with 50,000 feet of lumber. The plant was valued at \$14,000. There was no insurance. The officers of the company are C. O. Brown, president; Col. R. W. Shand, secretary and treasurer, and S. R. Shand, superintendent. The company has not definitely decided to rebuild.

Lieutenant Hansen, of the Danish navy, and agent for the Urania Steamship Line, is making his headquarters at Sabine Pass, Texas. He is completing arrangements on this side for his company, which proposes to establish a regular steamship line between Sabine Pass and European ports. Lieutenant Hansen has already engaged several cargoes of lumber and timber, and is meeting with a good patronage from Orange and Beaumont shippers.

The quarterly meeting of the Baltimore Lumber Exchange was held at its rooms in the Builders' Exchange Building on Friday last. President Dill occupied the chair, with C. S. Stran, secretary. The meeting was well attended, there being over fifty members present. After the minutes of the previous meeting were read considerable business was transacted, and after the regular routine was disposed of the members adjourned for a luncheon. At the luncheon, which was elaborate, several short addresses were made by former presidents of the Exchange. The presidents of the Exchange have been Samuel Burns, George F. Sloan, Thomas B. Strahn, Richard W. Price, E. B. Hunting, Francis E. Waters, William D. Gill, P. M. Womble and Lewis Dill.

To Locate at Rockmart, Ga.

Mention has been made several times during the year of the contemplated Southern branch factory of the New York Mills, of New York Mills, N. Y.

Mr. S. R. Campbell, treasurer of the company, has written the Manufacturers' Record that the location of the plant has been definitely determined and site has been secured at Rockmart, Ga.

Beyond obtaining the necessary site, having surveys made, arranging the railroad facilities, etc., little else has been done in the matter.

Later full particulars regarding the new mill, such as statement of number of spindles and looms to be installed, employees to be engaged, amount of money to be expended, etc., will be announced. The company's New York plant operates 75,000 spindles and 1835 looms.

Attwell & Co., metal cornices, etc., of Fort Worth, Texas, in a letter to the Manufacturers' Record say that the outlook for business is better than in 1897, but prices are very low and competition is strong.

The retail grocers of Florida are arranging for the formation of a State association.

In New Orleans cottonseed products are moving in larger quantities, and the market for oil is firmer. There is a better foreign export demand for cake and meal, and prices are steady. Receivers' prices are quoted as follows: Cottonseed, \$5 per ton (2000 pounds) on the river bank from New Orleans to Memphis; cottonseed meal jobbing at depot, \$16.50 per short ton and \$18 to \$18.50 per long ton for export f. o. b.; cottonseed oil, 15 to 16 cents per gallon for strictly prime crude; in bulk, 13 to 14 cents, and 19½ to 21 cents for refined oil at wholesale or for shipment; oilcake, \$18 to \$18.50 per ton f. o. b.; linters—A, 2½ cents per pound; B, 2½ cents; C, 2½ cents; hulls delivered at 7½ to 10 cents per 100 pounds, according to the location of the mills.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, N. Y., November 2.

The cotton-oil market presents few, if any, new features—slow as ever, but strong. The export trade continues dull, with ocean freights scarce and advancing. A few weeks ago the rate for cotton oil to Marseilles was 3s. 8d.; now it is 6s. This will convey an idea of the freight scarcity, while even higher rates are quoted for December. There is little doing in refined oil, but white oil has been in fair demand at quoted rates. Crude from the valley and Texas is reported to have been sold freely to Western refiners, 13½ to 13¾ cents being the prevailing prices. Southern refiners are said to have paid 14½ cents. The lard market has declined since our last, and 4.90 cents, Chicago, is now quoted, January delivery. Tallow continues strong at 3½ cents, but with lard on the downward track and ocean freights so excessively high there is little prospect of a decided improvement in cotton oil, at least for the present. Furthermore, reports from France are to the effect that a big olive and other oil-seed crops obtains this year in Mediterranean countries, a circumstance which forebodes a poor demand for cotton oil, whether for edible or soap-making purposes. Nevertheless, it is certain supplies at the mills have been well sold up. It is felt that bottom prices have been reached, and offerings are comparatively light, and all grades, including off oil, held with confidence. The quality of the oil arriving is better, and, as seed now reaching the mills is in an improved condition, this will doubtless continue with regard to oil. Crude in barrels has sold here freely at 17½ cents, and off yellow has found a fair demand at 20½ to 21 cents. The following are closing prices: Crude, 17½ to 17½ cents; crude, loose f. o. b. mills, 13½ to 14½ cents; crude, loose, 12½ to 13 cents; summer yellow, prime, 21½ to 23 cents; summer, off grades, 20½ to 21 cents; yellow, butter grades, 27 to 28 cents; white, 28 cents; winter yellow, 28 to 28½ cents, and salad oil, 5½ to 5½ cents. Liverpool refined oil is steady at 15s. 6d. At the close today firmer lard and strong active market for crude is more in evidence.

Cake and Meal.—Meal is moving freely on home orders, while feeding stuffs generally abroad are firm, and in some instances further advanced rates are demanded. A parcel of new-season cake arriving in Liverpool was sold readily at £5 15s. Parcels of Egyptian seed on passage to London sold at £5 2s. 6d., and November-January delivery £4 15s. Prices at this market are unchanged.

Cottonseed-Oil Notes.

The Kauffman Cotton Oil Co., of Kauffman, Texas, has amended its charter, increasing its capital stock from \$10,000 to \$20,000.

Texas mills report the market for cottonseed products as improving, with prices a shade higher for oil. The domestic demand for oil is fair, and the foreign trade is moderate. Exports of cake and meal have been better during the past week. The Houston Post, in its market review, quotes values as follows: Prime crude oil, 13 to 14 cents; prime refined summer yellow, 16 to 17 cents; cottonseed meal, \$12.50 to \$13; cottonseed cake, \$12 to \$12.50, and linters—A, 1½ to 2 cents, all f. o. b. mill at interior points in the State.

MECHANICAL.

The Chicago Time Register.

The Chicago time register, illustrated here, is a contrivance wherein is a clock attachment which is useful in keeping a record of the arrival and departure of employes. It is intended for large manu-



THE CHICAGO TIME REGISTER.

facturing and mercantile establishments. Each employe has a numbered key. When registering he simply inserts the key in the clock and gives it a slight push, when a bell rings and his number and time are recorded in full view. Thus the illustration shows that employe No. 120 has recorded at 7 o'clock. The employe sees that his name is recorded accurately,

autograph recorder, and is adapted to keeping the time of employes in offices, banks, stores, etc., when it is desired to keep the time of employes or a record of the time consumed on different work. In this case the employe registers by signing his name on the record sheet, thereby lowering the wrist support upon which he rests his hand while writing, which causes the machine to automatically print the time opposite his name and in his full view. The autograph signature prevents the recorder from being tampered with.

These machines are stated to be most carefully constructed, the recording mechanism being simple and durable, while the clock movement is of the Seth Thomas manufacture.

The Chicago Time Register Co., of 1212 Fisher Building, Dearborn and Van Buren streets, Chicago, Ill., is the maker of this recorder.

Electric Transmission.

The illustration presented shows the interior of the power-house used in the electrical transmission plant at Mechanicsville, N. Y., on the Hudson river. This power was developed for the purpose of supplying a number of large manufacturing enterprises, including that of the General Electric Co. at Schenectady, N. Y., which covers about 130 acres of ground. The General Electric Co. was to purchase the largest amount of power from this plant and its constructors followed closely that company's advice as to the electrical equipment, the result being a power transmission plant representative of the most modern hydraulic and electrical practice. The hydraulic engineering features of the development were conducted by Mr. A. C. Rice, chief engineer of the Stilwell-Bierce & Smith-Vaile Co., of Dayton, Ohio.

current at thirty-eight cycles and 12,000 volts to the transmission lines.

The electrical equipment of the entire plant was furnished by the General Electric Co.

Handy Pocket Level.

The illustration represents a novel instrument. It consists of a hollow base filled with alcohol and an accurately-ground lens, concave at the inside, fastened down by means of a cap, thereby making an airtight reservoir for the alcohol, only leaving a small bubble of air in it. The bottom base has a "tit" in the center, and when the bubble is right over



HANDY POCKET LEVEL.

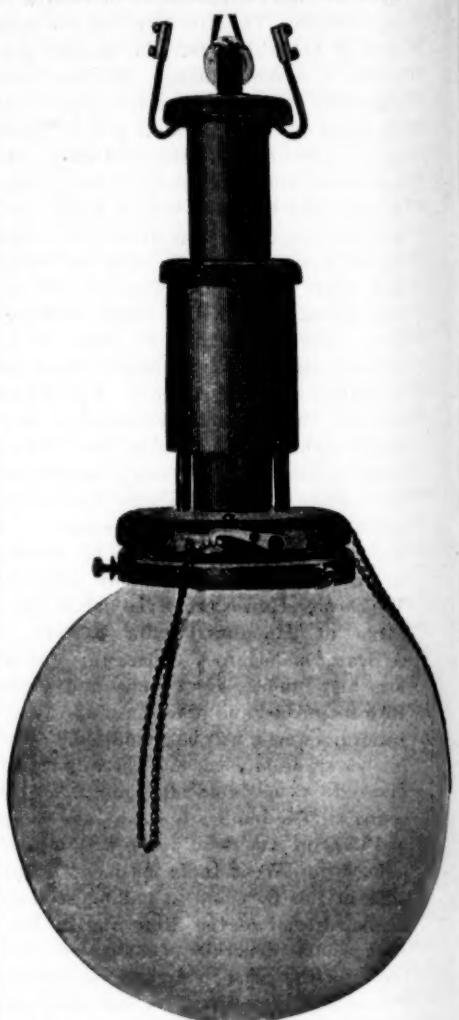
it the work is central. Should this bubble be out in either direction, it will show exactly which way your work is out, hence the name, "Which Way." With the old-style level it was necessary to put the level on your work one way, then another, and so on, and it was simply a matter of trying. With this instrument you just lay it down, and it will tell instantly in what direction the work is out, where it should be raised or lowered. The inventor, Mr. E. G. Smith, of Columbia, Pa., would be pleased to send descriptive circular and prices to anyone interested.

Inclosed Arc Lamp.

An illustration is presented of the Nowotny inclosed arc lamp. In making

the access of fresh air, thus prolonging the life of the carbons 125 to 150 hours. The carbon is gripped directly without the intervention of any carbon rod; the clutch is composed of four porcelain balls, maintained in position by a retaining receptacle and performing all the functions of a ball-bearing, arc-maintaining device. It is impossible for the carbon to slip except at the proper time when feeding takes place.

The general arrangement of this lamp is such that it is extremely easy for even



NOWOTNY INCLOSED ARC LAMP.

an inexperienced person to recarbon and take care of it.

There are no adjustments to get out of order. Owing to the unique manner in which the inner globe is held in position there is ample room for the glass to expand and contract without danger of it breaking, and the breakage of the inner globes is rare. The outer globe is supported by a ring at its top, which, when lowered, is held by three chains in such a manner that the globe can be raised or lowered without detaching it.

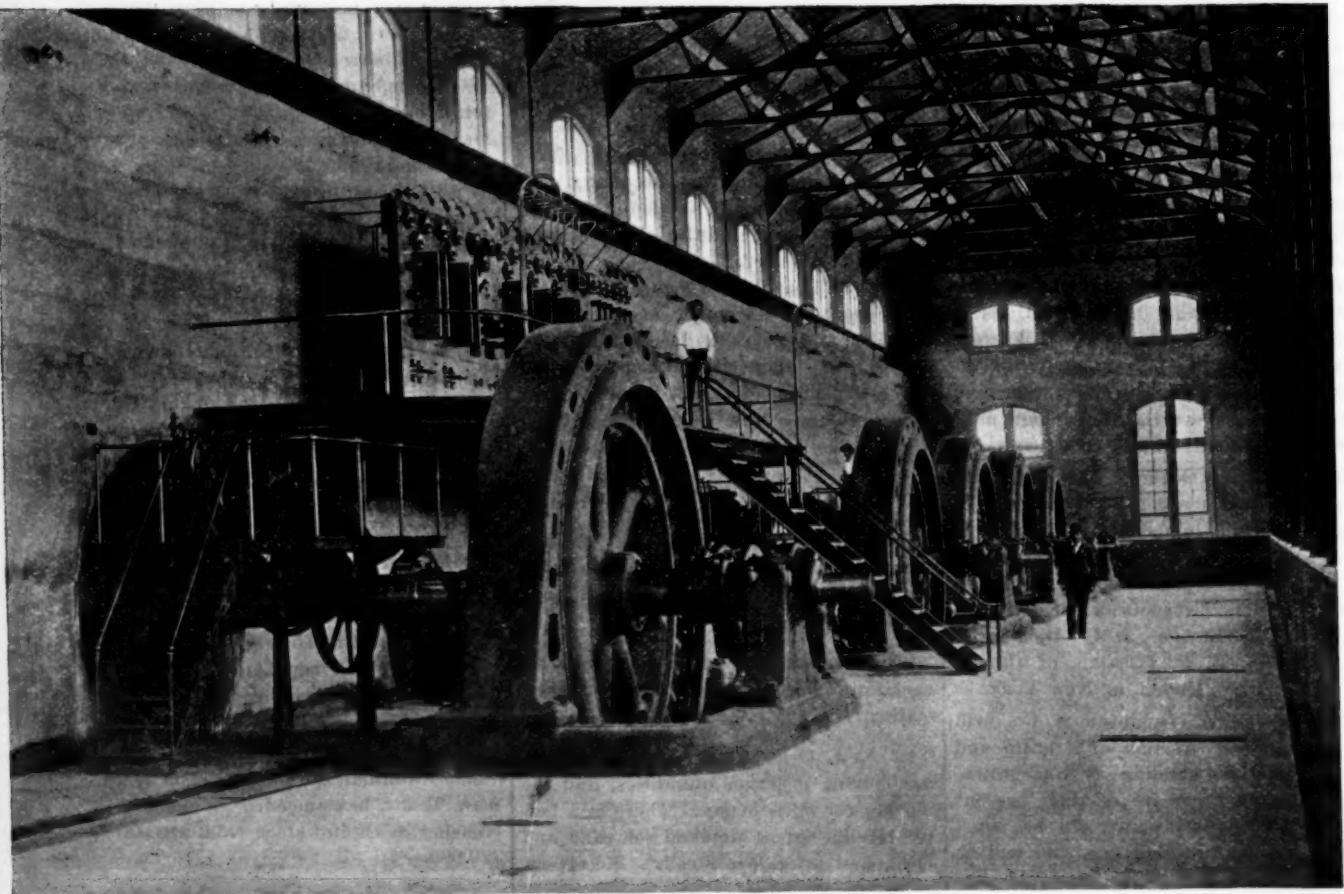
For further details address the manufacturer, the Nowotny Electric Co., 208-212 Lawrence street, Cincinnati, Ohio.

Lubricating Compounds.

Everyone who is conducting a business wherein the use of machinery is required knows only too well the great cost of lubrication. There have been introduced, and are on the market today, many compounds, graphites, greases, etc., for lubrication of engines and other machinery, which have met with success. Among the most prominent of these successful lubricants is the compound known as the "Albany Grease," manufactured by the Albany Lubricating Compound & Cup Co., Adam Cook's Sons, proprietors, 313 West street, New York city.

A pure lubricant is required to keep the machinery in motion with the least possible wear and tear, and it is claimed that "Albany Grease" fills this want to the utmost satisfaction.

There is no drip pan required for this compound, as it is self-acting, and runs



INTERIOR OF POWER-HOUSE OF ELECTRICAL TRANSMISSION PLANT AT MECHANICSVILLE, N. Y.

and thus all disputes are obviated. The key is not turned, thus avoiding any delay or annoyance on that account. After having registered upon arrival, the employe hangs his key on the inboard, and when leaving hangs it on the outboard, so that it can be readily seen whether he is in or out. The clock is placed between the two boards.

Another style of recorder is called the

dynamo-room is 255 feet long and thirty-four feet wide. The ultimate generator capacity of the station is 7000 horse-power in seven generators, each of 750-kilowatt capacity. Five have been installed and are now running. They are three-phase, 40-pole, 750-kilowatt, 114-revolution, alternating-current machines, having revolving fields and stationary armatures, delivering thirty-six amperes of

this lamp particular attention has been paid to all electrical and mechanical details. The best material obtainable and skilled labor are used in its manufacture. There are no rods, no chimney, no clock-work, no gear-wheels, no springs, no side-rods, nor outer globe-stand to cast shadows. The arc is entirely inclosed by the inner globe, which is in turn surrounded by the outer globe, preventing

only while the shaft is in motion; also, it is claimed that it is impossible for the bearing to become overheated, as it always feeds sufficient to keep the shaft cool.

Further information can be obtained from the company, with the highest of recommendations from delighted users of its product.

The Wear of Paints.

The chief object of exterior painting is to preserve and to protect from the destructive action of the weather the surfaces to which it is applied. Iron and steel structures are painted to prevent rusting; galvanized-iron and tin roofs for the same purpose, and wood structures to prevent decay. Incidentally, it is customary to combine decorative effects with the essential purpose of preservation; hence in exterior painting contrasting and harmonious colors are used in pleasing combinations. The resources of the modern paint manufacturer make it quite possible to combine beauty and utility in the protection of buildings with paint, but it is very easy to sacrifice one desideratum to the other or to sacrifice both to a penny-wise parsimony.

The durability of a paint, like the strength of a chain, is equal only to that of its weakest element. If the oil be more durable than the pigment, the destruction of the pigment will measure the durability of the compound; if the pigment be more durable, the deterioration of the oil will set the limit to the endurance of the coating. Ordinarily speaking, however, the durability of the linseed oil used in making paints measures the durability of the paint itself. This principle has been formulated into an axiom that "oil is the life of paint." It follows that the greater the proportion of oil carried by a pigment, other things being equal, the greater the durability of the paint.

But while this latter statement in fact does hold true throughout, the chemical activity of certain commonly-used pigments still further shortens the term of their endurance by destructively attacking the oil itself. Such a pigment is the strongly basic lead compound, white lead, which is among the least durable of the more familiar paint pigments. Other pigments, such as lampblack, graphite, zinc white, the iron oxides, ochres, etc., which, being either wholly or almost wholly inert, besides carrying proportionately a very large quantity of oil, exert no destructive influence upon the latter.

The destruction of a paint based upon any of the last-named class of pigments proceeds very slowly through the progressive oxidation and decay of the oil, while in the case of the strongly basic pigments the action is twofold—first, there is the same natural progress of oxidation, and superadded thereto we have the formation of a metallic lead soap upon the exposed surface; the possible changing of the lead oxides into sulphide; the crumbling of the exterior layer, and this process is repeated until the coated surface is left entirely bare.

But while these facts are familiar, there is one factor in the destruction of paints exposed to the elements which has never received adequate attention. If a series of boards be painted with pure lead and with various other materials and combinations, and exposed side by side to the weather, it will be found that besides the darkening of the lead by transformation into the sulphide, some of the boards will retain their gloss, and consequently their smooth polished surface, much longer than others. It will be observed also that those that best retain this gloss will remain free from dust,

sand, coal dust, ashes, etc., which will accumulate thickly on the chalky surface of the boards which have lost their gloss. Now, this wind-blown dust is a factor scarcely less potent than oxidation in determining the destruction of paint, acting in a minor degree like a sand-blast upon all surfaces exposed to it. The result is that the glossy elastic surface which retains its oil resists the effects of the blast, while the dull surface from which the oil and the elasticity have disappeared is eaten away. If anyone doubts the importance of this factor, let him coat a plate of steel with linseed oil, leaving a portion bare, and after the oil is thoroughly dry expose the plate for a few minutes to a sand-blast. The effect of the blast upon the coated and the uncoated portions of the plate will furnish an exaggerated illustration of the action of the dust-laden wind upon a glossy and a "dead" painted surface.

Of all the white pigments, zinc white carries the largest proportion of oil. An ordinary pure zinc paint ready for use contains about seventy-five pounds of oil to 100 pounds of the pigment, while a pure white lead paint in the same condition contains about forty-five pounds of oil to 100 pounds of the pigment; in other words, zinc paint consists of 43 per cent. of oil and 57 per cent. of zinc white, while white lead paint contains 31 per cent. of oil and 69 per cent. of white lead. But the oil in the zinc paint retains its character long after the oil in the lead paint has entirely disappeared.

There are three objections to the use of pure zinc white, for outside painting: First, it must be applied to dry wood in dry weather, or it is likely to crack; secondly, it dries slowly, and the addition of driers partly destroys the enduring qualities of the oil; and, thirdly, its density is somewhat inferior to that of lead. This deficiency in density is, of course, due largely to the excessive proportion of oil required to prepare it for use, which, on the other hand, gives it superior durability. In practice, therefore, it has been found more satisfactory to combine the zinc with the other pigments having a larger "grain," such as barytes, lead, etc., and thus to increase its "body" or obscuring properties. Such combination paints, when made by the addition of lead, have some of the faults of pure lead, in that they may darken on exposure and will crumble away in time, but they are far more durable than the pure lead, and are, therefore, preferable to it.

These are facts which it will profit paint users to take into consideration. The cost of any paint is comparatively trifling, but the expense of frequent renewal is great, and that paint which best protects a building, at the least cost for renewal within a term of years, is the most economical. The combination paints generally cost less per square yard covered than pure white lead, and the best of them require renewal only about half as frequently.

STANTON DUDLEY.

Speaker John D. Little, of the Georgia legislature, is preparing a bill to introduce at the next meeting of the legislature to expedite tax reform in the State.

The Nashville Chamber of Commerce is considering a plan to publish a booklet descriptive of the advantages offered at Nashville for investments.

Invitations have been extended to the cities and States of the South to attend a quarantine convention at Memphis beginning November 17.

Since January 1 permits for new buildings aggregating in value \$162,997 have been granted at Chattanooga, Tenn.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, Md., November 3.

In the local phosphate market the situation remains unchanged, and the tone is quiet, with a light volume of business. Manufacturers of fertilizers are not purchasing in large lots, but only to supply immediate wants. From the phosphate territory in Florida the reports are generally of a character indicating moderate activity in all mining sections. The demand from domestic and foreign sources is fair, but the advance in freights and scarcity of tonnage restricts operations among shippers. There is, however, a fair volume of shipments reported from the ports for the month of October. Pebble miners are generally busy, and land-rock shipments through Savannah and Brunswick have been good for the past month. In South Carolina the phosphate market is quiet at the moment, but there is a better demand expected, both from domestic and foreign sources. Prices remain nominally steady, with no change in values. Crude rock at the mines is quoted at \$3, hot-air-dried \$3.25 f. o. b. vessel in Ashley river and \$3.45 f. o. b. city; ground rock in bulk, \$5.50 f. o. b. city. There is an active development reported from the Tennessee phosphate belt, and shipments from Mt. Pleasant continue of liberal volume. Prices are generally steady, with a good domestic demand and some foreign inquiry. In New York the only charters reported last week were the schooner C. E. Burke, 871 tons, from Coneatable Island to Cartaret, N. J., with phosphate rock on private terms, and schooner Bayard Hopkins, 212 tons, from Charleston to Seaford, Del., with phosphate rock at \$2.25.

Fertilizer Ingredients.

The market for ammoniates is generally quiet, but there is more inquiry for certain descriptions. There is very little inquiry from Southern sources, while there is some inquiry from the Eastern market. Messrs. Thos. H. White & Co., in their October circular, review the market as follows: "The month past has not shown improved demand for ammoniates. The Eastern manufacturers have remained out of the market, and Southern orders were few and far between. The fall distribution of fertilizer in the West was beyond all precedent or expectation of manufacturers, and left the large producers of material with very small stocks for this season of the year; consequently, they have been holding prices firmly. The general situation is unchanged. Cotton remains depressed, and meal unfit for cattle feed or export has sold at prominent Southern points at \$13.50. Nitrate of soda and sulphate of ammonia are slightly higher. Stocks of ammoniates, however, in the hands of smaller producers West are increasing, and there is more anxiety to sell than to buy. We anticipate a dragging market for the next two or three months."

The New York Journal of Commerce and Commercial Bulletin of the 2d inst. says: "Fair sales of blood and tankage are reported to have been made on the basis of former values for early delivery, which caused a better feeling in all animal ammoniates. Sulphate of ammonia also shows a slightly better tone, and values are a shade higher. Fish scrap is offered sparingly, owing to light stocks, and commands full prices. Nitrate of soda has turned firmer, but business is not large."

The following table represents the prices current at this date:

Azotine (beef).....	1 85	@	—
Azotine (pork).....	1 85	@	—
Tankage (concentrated)...	1 65	@	—
Tankage (9 and 20)....	1 70	and	10
Tankage (7 and 30)....	17 00	@	17 50
Fish (dry).....	20 00	@	—
Fish (acid).....	12 00	@	—

Phosphate and Fertilizer Notes.

A British steamship cleared from Savannah last week with 2463 tons of Florida phosphate rock for Rotterdam, valued at \$24,630.

It is stated that the Salem Fertilizer & Chemical Co., of Salem, Va., has decided to remove to Roanoke, where it will occupy the building erected at Norwich for the Bridgewater Carriage Co.

The Austrian steamship Abbazia, 1838 tons, arrived at New Orleans last week from Tampa, Fla., with 2200 tons of phosphate rock. The Abbazia will finish her cargo for Trieste and will be cleared by Meletta & Stoddart, of New Orleans.

The shipments of phosphate rock from the port of Charleston, S. C., to domestic ports for the week ending October 28 were as follows: Schooner Mary Lee Patton for Baltimore with 820 tons. The total shipments from September 1, 1898, amounted to 18,428 tons, against 11,931 tons last year.

The first number of the Quarterly, issued by the Maryland Agricultural College, under direction of Prof. H. B. McDonnell, in charge of the chemical department, has been published. It contains a tabulated statement of the commercial fertilizers sold within the State. Under the laws of Maryland the inspection, sampling and analysis of commercial fertilizers is to be done under the auspices of the Maryland Agricultural College.

It is stated that the deal between the Chicora Fertilizer Co., of Charleston, S. C., and the Virginia-Carolina Chemical Co., of Richmond, Va., has been closed. The stockholders have received notice of a special meeting called for November 7, and also a blank proxy, to be signed should they find it impossible to be present in person and forwarded to such stockholder as they may select to represent them. A circular which accompanies the notice contains the information that the Chicora Fertilizer Co. has entered into a contract to sell at a price estimated, together with collections of past sales, to net to the stockholders over \$125 per share.

The annual meeting of the Fertilizer Manufacturers' Association in the West was held in St. Louis last week. President A. T. Whitman called the meeting to order, and in his annual address reviewed the work of the association and showed its affairs to be in a satisfactory condition. About thirty fertilizing concerns were represented. The delegates came from Nashville, Cincinnati, Toledo, Pittsburgh, Buffalo, Cleveland, Chicago and St. Louis. An address was delivered by Thomas L. Cannon, secretary of the St. Louis Manufacturers' Association, on "Unjust Legislation." Professor Houston, State chemist of Indiana, treated of State inspection and regulation of the fertilizer trade.

SUBSCRIPTION AGENTS WANTED.—The Manufacturers' Record Publishing Company wants Subscription Agents for its Southern Farm Magazine, the best and most active agricultural publication in the South. Every man interested in the possibilities of diversified agriculture in the South, as well as every farmer, should read it. The subscription price is \$1.00 a year. Liberal commission to agents. Write for particulars to Southern Farm Magazine, Baltimore.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

ALABAMA.

Bessemer—Cotton Ginnery and Grist Mill. J. C. Burdin is erecting a cotton ginnery and grist mill at a cost of \$3500.

Birmingham—Wagon Factory, Chair Factory and Woodworking Factory.—The Commercial Club is corresponding relative to the establishment of three large industries, namely, a chair factory, wagon factory and woodworking factory. Endeavors will be made to assure the location of these enterprises in the near future. If located, the wagon factory will have a yearly capacity of 25,000 vehicles, employ 250 skilled men, and have machine shops (five in number), paint shops, warehouse, etc., costing \$50,000; the chair factory will have an annual capacity of 120,000 chairs, employ seventy-five hands, and the woodworking factory (which is projected for removal from Michigan) will have a daily capacity of 400 articles.

Calera—Bicycle Works.—It is stated that D. T. Demarest, of Alexandria, Va., has arranged with the MacKnight Manufacturing Co., of South Calera, Ala., for the manufacture of his patented wood bicycle.

Decatur—Cotton Mill.—A movement is on foot for the erection of a cotton mill. The Decatur Land Co. is interested.

Decatur—Tobacco Factory.—A. A. Boleskiner is endeavoring to organize a stock company to erect a tobacco factory.

Decatur—Railroad Shops.—The Louisville & Nashville Railroad Co. is placing considerable new machinery in its shops at Decatur; fifty-four additional men will be engaged, making a total of 1020.

Hokes Bluff—Flour Mill, etc.—W. W. Cobia will put in buhrs for flour mill and planing mill next season.*

Prattville—Cotton-gin Works.—The Daniel Pratt Gin Co. will enlarge its works, as reported last week; will erect an addition 66x228 feet, three stories high, and add more iron and woodworking machinery.*

Piedmont—Copper Mines.—Copper deposits have been discovered near Piedmont and may possibly be developed. E. D. McClelan can be addressed for information.

Stanton—Lumber Mills.—The Gregory-Coe Lumber Co., lately noted as incorporated, is

not a new enterprise, as it has been in operation for the past fourteen years. The company has an extensive plant for the manufacture of long-leaf yellow-pine lumber.

ARKANSAS.

Arkansas City—Mercantile.—Incorporated: The G. N. Adams Dry Goods & Grocery Co., capital stock \$5000, by J. N. Adams, L. M. Ellser and M. L. Crenshaw.

Fort Smith—Electric Plant.—Incorporated: The Fort Smith Traction, Light & Power Co., by Alfred N. Slard, Ella E. Slard, Richard C. Kern, Charles H. Smith, J. E. Foster, Joseph M. Hill and James Brizzolara. The capital stock is \$200,000, of which \$100,000 has been subscribed and paid up.

Luxora—Mercantile.—Incorporated: The Luxora Grocery Co., capital stock \$2000, by John B. Driver, G. W. Morrow, W. B. Calhoun, J. F. Morrow, C. B. Hall, J. F. Dudley, Jr., and Will J. Driver.

FLORIDA.

Kissimmee—Drug Company.—Incorporated: The J. C. Leake Drug Co., with a capital of \$25,000, to buy and sell drugs and medicines and conduct a general drug business, by J. C. Leake, A. E. Beardin and E. L. D. Overstreet.

Lebanon—Turpentine Works.—It is said that a large turpentine plant is being constructed. Names of interested parties will be given later.

Morrison—Saw Mills.—G. B. Murrell & Co. have purchased 4000 acres of timber lands and will erect large saw mills.

Orlando—Tobacco Factory.—P. P. Jaudon will establish a tobacco-curing house.

GEORGIA.

Atlanta—Cotton-gin Works.—Messrs. Thos. W. Prior and Matthew Prior, of Philadelphia, are organizing a \$500,000 stock company for the purpose of erecting works, in Atlanta, for the manufacture of a new cotton gin invented by Matthew Prior, formerly of Watertown, Mass. It is expected that work will be commenced on the plant immediately, to employ several hundred hands when completed. For further information address the Prior Cotton Gin Co., 927 Chestnut street, Philadelphia, Pa.

Augusta—Bottling Plant.—The Augusta Brewing Co. has commenced work on the foundation of a bottling department. The building will be of brick, two stories in height, 80x60 feet, will cost about \$4000, and when complete be furnished with some new bottling machinery, also boiler and engine.

Augusta—Gas-machine Works.—W. E. Schofield, of 949 Ellis street, has commenced the manufacture of the "Sunlight" gas machine.

Barnesville—Flour Mill.—Turner & Prout contemplate erecting a roller-process flour mill.

Dalton—Flour Mill.—W. H. Prater, B. D. Leonard and J. F. Robertson will build a flour mill of 1200 bushels wheat daily capacity.

Fitzgerald—Saw Mill, etc.—It is proposed to organize a co-operative company to establish a saw mill and woodworking factory. For information address J. E. Ericson, Box 575.*

Gainesville—Gold Mines.—A. W. Irvin, who represents himself and investors of the East, has purchased from C. A. Dozier gold-bearing property near Gainesville for development. Address A. W. Irvin, care of C. A. Dozier.

Rome—Iron Mines, etc.—The Oostanaula Iron Co. has been incorporated, with capital stock of \$10,000, for mining iron ores, opening quarries, etc. The incorporators are L. S. Colyar, C. W. Howard and Graham Crabbtree.

Savannah—Steamboat Company.—The W. S. Clark Steamboat Co. has been incorporated, with capital stock of \$14,000, by W. T. Gibson, of Savannah; W. W. Howard, of Wilmington, N. C., and others.

Savannah—Cooperage.—The Savannah Cooperage Co. has been incorporated, with capital stock of \$10,000, for the purpose of conducting a cooperage, manufacturing woodwork, etc.; Merritt W. Dixon, William L. Wilson and John W. Moore are the incorporators.

Stone Mountain—Knitting Mill.—The Anneslawn Cotton Mills has added a knitting mill to its spinning factory; capacity 100 dozen pairs men's hose per day, employing

twenty operatives. More knitters will be purchased soon.*

KENTUCKY.

Germantown—Telephone Lines.—The Germantown, Minerva & Maysville Telephone Co. has filed articles of incorporation, the incorporators being J. F. Walton, S. D. Rigdon, T. M. Dora and Evan Lloyd, of Germantown, and C. L. Sallee, M. C. Russell, Isaac Woodward and John C. Adamson, of Maysville; president, J. F. Walton; vice-president, C. L. Sallee; secretary and treasurer, Isaac Woodward; general manager, S. D. Rigdon. Address the manager.

Lebanon—Cemetery.—Incorporated: The Lebanon Junction Cemetery Co., capital stock \$3000, by Charles Newman, Thomas Atcher and Phil Orms.

Louisville—Machine Works.—Incorporated: The American Machine Co., by G. A., John G. and F. W. Dueable and J. Kraft, to manufacture boilers and machinery generally. The capital is \$10,000.

Louisville—Garbage Crematories.—Regarding the proposed garbage crematories, the board of public works says that it and the joint health committee held one or two conferences upon the subject, but up to the present date no definite action has been taken in the matter. Address Thomas P. Craig, secretary.

Louisville—Hides and Tallow.—Incorporated: The Louisville Butchers' Hide & Tallow Co., by H. A. Kraft, G. Layer, C. H. Furst, H. F. Vissman, Nicholas Weber and C. W. Schloemer. The company's capital authorized is \$32,000, and its purpose to sell hides and tallow.

Owensboro—Packing-house.—W. J. Smith and Ed Stiles are erecting a pork-packing house; machinery has been purchased.

Rochester—Water Works.—The construction of water works is talked of.

Winchester—Steam Laundry.—F. P. Pendleton and F. H. Jackson will install a steam laundry.

Winchester—Brick Works.—The Gaffney Vitrified & Press Brick Co. is enlarging, improving and building new plant, and will put in new machinery. Capacity per month will be 1,500,000 bricks.*

LOUISIANA.

Avery—Salt Mines.—The Iberia Salt Mines are arranging to contract for an entire new mining plant to double the present output of 200 tons of salt.

Crowley—Irrigation System.—Welman Bradford contemplates the construction of an irrigation system to distribute 156,000,000 gallons of water per twenty-four hours. Estimates are now being obtained on the cost of the entire equipment required.*

Monroe—Shingle Mills.—The North Louisiana Shingle Co., Limited, incorporated as reported during the week, will commence operations about January 1 next. The factory will be started with a capacity of 100,000 shingles daily, to be increased to 250,000 daily.

Thibodeaux—Ice Factory and Oyster Packing.—The Thibodeaux Oyster Packing & Ice Co., Limited, has been incorporated, with a capital stock of \$25,000, for the purpose of erecting a 30-ton ice factory and establishing an oyster packing of 150 to 200 barrels capacity per day; Dr. L. E. Meyer, president; E. N. Roth, vice-president; S. Lewron, secretary, and C. O. Dantin, treasurer. Address the secretary.

MARYLAND.

Baltimore—Machinery Works.—Incorporated: The J. S. King Machine Co., by Jos. S. King, George I. Records, Harry P. Goldsborough, Francis W. Little and Sidney S. Davy, to manufacture machinery. The capital is \$2000.

Baltimore—Machine Shop.—Julian P. Frieze has let contract to E. M. Noel for the erection of a building, 22x62 feet, to be used as a machine shop.

Baltimore—Glass-beveling Mill.—F. X. Ganter has equipped a plant with machinery for beveling, mitering, silvering and clipping plate glass.

Baltimore—Printing Plant.—The Price, Robertson & Cushing Co. has been incorporated for carrying on a printing business, with a proposed capital stock of \$5000, by R. Bennett Price, Francis C. Cushing, W. Hanson Robertson, Edward McC. Fisher and Alexander H. Robertson.

Baltimore—Rubber Company.—Incorpora-

ted: The Baltimore Rubber Co., by Messrs. Wm. A. Jones, of Baltimore; Alfred L. Lindsey, of Newton, Mass.; Thomas J. Skinner, of Wakefield, Mass.; Charles L. Luess, of Baltimore, and Samuel H. Jones, of Anne Arundel county, Maryland. Proposed capital stock \$100,000.

Cecil County—Gold-bearing Lands.—It is said that Philadelphia parties continue to purchase lands in Cecil county, which are said to be gold-bearing; Francis A. Gibbs, of Philadelphia, is said to represent the purchasers.

Centreville—Packing-house.—Jacob Durham, of Baltimore, will build a packing-house in Centreville.

Denton—Water Works.—The construction of water works continues to be discussed. N. S. Hill, of Baltimore, made a survey and estimated cost of plant at \$12,500. Address "The Mayor."

Hagerstown—Electric-light Plant.—The city council has taken the initial steps to establish a sewerage system and electric-light plant, as has been projected; electric plant will probably cost \$60,000, and sewerage system about \$150,000. Address "The Mayor."

Havre de Grace—Can Factory.—The Reynolds Bros. Can Co. is erecting an additional building, 16x112 feet, and will put in more machinery.

Sharptown—Basket and Crate Factory.—A. W. Robinson & Co. will erect a new factory building to cost \$10,000; will manufacture crates, baskets, fruit packages, etc.

St. Michaels—Water System.—The construction of a water-supply system is talked of. Address "The Town Commissioners."

MISSISSIPPI.

Summit—Water Works.—The city council has closed contract with Sanders & Porter, of Louisville, Ky., for the construction of water works to cost \$14,000.

Yazoo City—Electric-light Plant, Water Works, etc.—The construction of water works, sewerage system and electric-lighting plant is talked of and L. G. Montgomery is said to be interested.

MISSOURI.

Carthage—Lead and Zinc Mines.—L. J. Douglas has sold to New Jersey parties for \$20,000 a tract of lead and zinc land, which the new owners will develop at once.

Carthage—Soap Factory.—It is said that a soap factory will be established by a company to be organized. A. Kauth is said to be interested.

Carthage—Lead and Zinc Mines.—Incorporated: The Triad Lead & Zinc Co., with capital stock of \$20,000.

Jefferson City—Grain Elevator.—John Kalser is erecting a grain elevator of 100,000 bushels capacity.

St. Joseph—Fruit Company.—Incorporated: The Oregon County Fruit Co., capital \$5000, by W. P. Graham, Wm. L. Culver, P. H. Outman and others.

St. Louis—Land Company.—Incorporated: The South Highland Land & Improvement Co., capital \$125,000, by E. E. Holmes, James Haggard, W. P. Holmes and others.

St. Louis—Sidewalk Company.—Incorporated: The Metallic Sidewalk Co., capital stock \$25,000, by D. E. Garrison, A. L. Johnson and D. E. Garrison, Jr.

St. Louis—Lumber Company.—Incorporated: The Clarkson Lumber Co., capital \$10,000, by James L. Clarkson, Albert Webb and William P. Clarkson.

St. Louis—Mining.—Incorporated: The St. Mary Mining Co., capital stock \$8000, by H. A. Hasse, G. H. Lucas, Kittle W. Lucas and G. M. Wilder.

St. Louis—Tobacco Company.—Incorporated: The Friedman Leaf Tobacco Co., capital stock \$35,000, by Clara and August Friedman and M. G. Levison.

St. Louis.—Incorporated: The Folkers-Crow Commission Co., capital stock \$3000, by G. H. Folkers, J. E. Crow and J. J. Rothweiler.

St. Louis—Paving Contractors.—Incorporated: The Metalloid Sidewalk Co., capital \$25,000, to manufacture sidewalks, paving blocks of concrete and concrete metal; incorporators, Albert L. Johnson, Daniel Garrison and Daniel E. Garrison, Jr.

St. Louis—Realty Company.—The Ramona Heights Realty Co. has filed articles of in-

corporation, capital stock \$20,000; George A. Bannantine, Phil Chew, John J. Broderick, James F. Ewing and William Bull are the incorporators.

St. Louis—Brewery.—It is stated that a \$100,000 brewery will be erected by a company now organizing; Paul Eckhardt is said to be interested.

NORTH CAROLINA.

Charlotte—Broom Factory.—B. L. Wedenfeller has established a factory of 75 to 100 dozen brooms capacity per day.

Morven—Flour Mill.—Gardner, Liles & Co. have erected mill building and will install burr-flouring equipment.

Tarboro—Warehouse Company.—The Tarboro Cotton Warehouse Co. has been incorporated, with capital stock of \$10,000, by C. W. Jeffreys, Job Cobb, Judge George Howard, George Howard, Jr., and Harry Smith. The business of the corporation is to do a storage and bonded warehouse business, buying and selling cotton and making advancements on agricultural products stored with it.

SOUTH CAROLINA.

Abbeville—Cotton Mill.—The Abbeville Cotton Mills contemplates putting in thirty or forty more looms.

Clover—Cotton Mill.—Reports say that the Clover Cotton Manufacturing Co. will double the capacity of its plant next year; company now has 6000 spindles.

Columbia—Cotton Mill.—Application has been made for charter for the Palmetto Cotton Mills, with capital stock of \$125,000, the incorporators being Allen Jones, T. J. Harper and W. P. Roof, of Lexington, S. C.; J. R. Hayes, of Columbia, S. C.; C. M. Pegram, of Elkin, S. C.; G. A. Shields and Julian B. Friday, of Columbia. The company has selected site and will erect at once a mill for the production of all varieties of cotton calicoes; machinery has been purchased. Power will be furnished by electricity from the Columbia Water Power Co. Address J. R. Hayes.

Easley—Flour Mill.—Incorporated: The Easley Roller Mill Co., with R. F. Lenhardt, president; W. M. Haggard, vice-president, and W. C. Smith, secretary and treasurer.

Greenville—Publishing Company.—The Palmetto Publishing Co. has been incorporated; S. A. Gaines, manager.

Pelzer—Cotton Mill.—It is reported that the Pelzer Manufacturing Co. has under consideration the erection of another (No. 5 mill) cotton factory.

Reedy River Factory—Cotton-mill Improvements.—The Reedy River Manufacturing Co. has been reorganized, and the capital stock will be increased from \$90,000 to \$200,000, with privilege of increasing further to \$250,000. The additional capital will be expended in the purchase of new machinery and for other improvements to the company's plant. W. E. Beattie, of Greenville, S. C., is president and treasurer.

Spartanburg—Cotton-mill-supplies Factory. The Andrews Co., of Chicopee Falls, Mass., has established a factory for the purpose of repairing loom-reeds, etc.; a large plant is expected to be built later on.

Spartanburg—Gaslight Plant.—The Spartan Inn has contracted for an acetylene-gas-lighting plant.

Spartanburg—Gas and Electric-light Plant. The Aetna Light & Power Co. will have plans and specifications prepared for a new plant, to be located on a new site. W. H. White, 32 Pine street, New York city, can give information.

Union—Mercantile.—The Purcell Cash Co. has been incorporated, with Charles J. Purcell, president, and John J. Purcell, general manager.

TENNESSEE.

Chattanooga—Candy Factory.—The "Kiss Me" Candy Co., of Asheville, N. C., will establish a branch factory in Chattanooga.

Chattanooga—Brewery Improvements.—The Chattanooga Brewing Co. has definitely decided on the proposed improvements to its plant; new refrigerating machinery to the amount of \$10,000 will be installed.

Chattanooga—Woolen Mill.—The Park Woolen Mills, of Rossville, Ga., will remove its pants department to Chattanooga, adding much new machinery, electrical apparatus, etc.

Chattanooga—Wheelbarrow Factory.—It is said that a wheelbarrow factory to employ 100 men will be established at once at East Lake; R. B. Henderson is probably interested.

Chattanooga—Plumbers' Supplies.—The Chattanooga Manufacturing Co. has been organized to conduct a plumbers' supplies business by W. B. Patten and W. E. Hendrick.

Chattanooga—Cotton Mill.—J. C. Vance is reported as in New York city negotiating relative to the erection of a cotton factory.

Ducktown—Copper Mines.—The Ducktown Sulphur & Iron Co. will reopen its mines that have been idle for several years. It is said that 700 men will be employed.

Franklin—Electric-light Plant.—The erection of an electric-lighting plant is said to be under consideration by D. F. Gardner.

Johnson City—Tannery.—The Watauga Tannery is improving its plant extensively, erecting new buildings, installing new apparatus, etc.

Nashville—Incorporated: The Hotel Investment Co., by J. V. Crockett, T. J. Mooney, H. L. Rice, Houston Jones and John B. Keeble.

Nashville—Steam Laundry.—The Southern Laundry has been formed and contracted for a completely equipped steam laundry; J. Cox Rapier will be manager.

West Point—Iron Mines.—The West Point Mining Co. has been organized and leased 142 acres of iron lands and purchased 100 acres of iron lands, both of which tracts will be thoroughly developed at once. The mines are already in operation, equipped with the latest improved machinery for a capacity of fifty cars of ore daily. The capital stock paid up is \$50,000, and A. A. Berger, of Florence, Ala., is president; N. C. Elting, of Florence, Ala., secretary-treasurer. Directors for the first year are Robert L. Bliss, A. A. Berger, N. C. Elting. Address secretary for further information.

TEXAS.

Austin—Natatorium.—The construction of a natatorium is proposed, to have 30x65-foot pool and all conveniences; estimated cost, \$21,000. Plans and specifications have been prepared by C. H. Page. H. McGillvray can give information.

Beaumont—Furniture Factory.—The Beaumont Furniture Co. has improved its factory and put in new machinery.

Corsicana—Water Works.—T. C. Stirling will construct a water-works system for a number of dwellings that he will build.

Corsicana—Telephone and Telegraph Improvements.—The Southwestern Telegraph & Telephone Co. is expending over \$50,000 in the improvement of its plant.

Decatur—Educational.—Chartered: Decatur Baptist College, capital stock \$50,000, by J. L. Ward, C. W. Martin and C. J. Crabb.

Houston—Live Stock Company.—Incorporated: The Houston Horse, Mule & Livestock Co., capital stock \$20,000, by T. T. Rubey, of St. Louis, and A. L. Towles and W. E. Berry, of Houston.

Jacksboro—Ice Factory.—The charter of the Jacksboro Ice Co., lately organized, has been filed; capital stock is \$10,000; purpose, slaughtering, refrigerating, canning, curing and packing meat; incorporators, John Hensley, Thomas F. Turner, L. Q. Wilson and J. E. Campbell. Address John Hensley.

Kaufman—Increase Capital.—The Kaufman Cotton Oil Co. will increase its capital stock from \$10,000 to \$20,000.

Marshall—Mercantile.—Incorporated: The Marshall Dry Goods Co., capital stock \$65,000, by J. S. Wagnon, Dan Doppelmayr, E. J. Fry, J. A. Womack, W. W. Heartsell and Mrs. Erie S. Austin.

Minera—Coal Mines.—The Rio Grande Coal Co., incorporated under the laws of New Jersey, has been granted permission to do business in Texas. The corporation is formed for the purpose of acquiring certain mineral and coal lands and properties known as the Santo Tomas tract, situated at Minera, in the county of Webb, Texas. The authorized capital stock is \$200,000. The incorporators are Thomas C. Wellman, of Bayonne, N. J.; P. V. C. Miller, of Flushing, N. Y.; James Dunne, M. F. McLanahan and Hugh Sivell, of New York city. Address the first-named incorporator.

Sour Lake—Development, etc.—It is proposed to organize a company, with capital stock of \$100,000, to make general developments at Sour Lake Springs, erecting hotel, bathhouses, sanitarium, etc.; Capt. S. S. Ashe, of Houston, and H. L. Benson, of San Antonio, are said to be interested.

Waco—Furniture Factory.—The Waco Trading Co. contemplates the manufacture of furniture, including iron beds.*

VIRGINIA.

Big Island—Paper and Pulp Mills.—The Bedford Pulp & Paper Co. (reported during the week as organized, etc.) has filed its charter, the capital stock being placed at \$100,000. The company is now making the extensive improvements and additions previously referred to, and the plant will be in operation next month, producing book, news,

manila and cardboard paper; capacity is ten tons daily. L. H. Sadler, of Richmond, Va., is manager.

Buena Vista—Cassimere Mills.—The Buena Vista Cassimere Mills is reported as to erect additional buildings and add new machinery.

Lynchburg—Mercantile.—W. O. Smith, R. J. Snead, L. E. Wingfield, T. Hubert Fox and A. B. Dabney have formed the W. O. Smith Co., to have a capital of \$5000; W. O. Smith, president, and R. J. Snead, vice-president.

Newport News—Electric-railway Plant.—The Newport News & Old Point Railway & Electric Co. will expend about \$200,000 in improving the railway, light and power plants which it has purchased, and in erecting a new electric-power plant; W. J. Payne, of Richmond, is president.

Norfolk—Cemetery.—James M. Goad will organize a \$160,000 company to conduct a cemetery.

Norfolk—Water-supply Improvements.—Contracts for the construction of dams, waste weir, canals, etc., to increase and improve the municipal supply has been awarded to the Degnon-McLean Construction Co., of New York, at \$117,840.

Norfolk—Proposed Sugar Refinery, etc.—A dispatch from Norfolk states that Archibald M. Bliss, of New York, an agent of the American Sugar Refining Co., has been investigating at Norfolk for a site on the waterfront for the building of docks for a steamship line to operate to Cuban ports. It is further said that this movement is the initial one for the removal of the Brooklyn (N. Y.) sugar refineries of the company to Norfolk. Regarding this report, Henry C. Mott, of the American Sugar Refinery Co., telegraphs, "No truth in the report."

Petersburg—Cotton Mill.—It is stated that John C. Mallonee, of Charlotte, N. C., has purchased the Swift Creek Cotton Mills from Wright & Leonard, of Petersburg.

Portsmouth—Refrigerating Plant.—The Armour Packing Co. will erect, it is reported, a three-story refrigerating plant.

Portsmouth—Water Front Company.—Incorporated: The Harbor Water Front Co., organized for the purpose of acquiring water rights and to develop and dispose of real estate. The company is capitalized at \$5000, and its officers are O. S. Byrd, president; L. C. W. Page, vice-president; John L. Watson, secretary and treasurer; T. J. Wool, attorney, and F. D. Gill, A. A. Billisoly and John S. Crawford, directors.

Richmond—Paper Mills.—Henry Lee Valentine, acting for himself and associates, has made an offer for the purchase of the Idle Haxhall Mills. The price offered is \$135,000, and if the receivers accept it a company will be organized to establish a large paper and pulp mill.

Roanoke—Realty Company.—Incorporated: The Roanoke Realty Co., with capital stock of \$10,000, which may be increased to \$25,000; J. R. Ellis, president; C. T. Ellis, vice-president; C. C. Ellis, secretary and treasurer.

Roanoke—Fertilizer Factory.—The Salem (Va.) Fertilizer & Chemical Co. will remove its factory to Roanoke; a suitable large building has been secured.

Slate River Mills—Flour Mill.—O. A. Dowdy expects to change his mill to the full roller process next spring; capacity daily to be forty barrels.

Suffolk—Telephone Line.—Incorporated: The Isle of Wight Telephone & Telegraph Co., for the erection of a telephone line between Suffolk and Smithfield, and to connect with the Southern States Telephone Co.; J. W. Thomas, of Smithfield, president; J. U. Burgess, Suffolk, vice-president; J. W. Holliday, Smithfield, secretary and treasurer; W. N. McAnge, Suffolk, general manager. Address manager.

Suffolk—Peanut Factory.—The Nansemond Peanut Co. has been incorporated, with capital stock of \$25,000, to conduct a peanut factory, said factory being now in course of construction, as reported recently in this department. C. A. A. Shoop is president; N. R. Withers, secretary; these two officers form, with J. U. Burges and Arthur Woolford, of Queenstown, Md., the directors. Several hundred persons will be employed.

Vesuvius—Woodworking Factory.—Rawlings & Mangus have established a factory for making pins and brackets.

Williamsburg—Cannery.—The Williamsburg Canning Co. will establish a cannery.*

WEST VIRGINIA.

Elkins—Gold Deposits.—It is reported that gold-bearing lands have been found on the farms of John A. Holland and Creed Michaels.

Huntington—Lumber Mills.—Incorporated:

The Ensign-Oscamp Co., for the purpose of selling timber and manufacturing it into lumber, capital stock \$100,000. The incorporators are Ely Ensign, J. W. Ensign, J. C. Dickey, of Huntington; W. S. P. Oscamp, of Cincinnati, and F. E. Canda, of New York. Address Ely Ensign.

Morgantown—Lumber Company.—The Pittsburg Chestnut Lumber Co. has been incorporated, with capital stock of \$20,000, by C. B. Dille, Edward G. Craig, John G. Stokes, Robert S. Donaldson and others.

Woodsfield—Electric Plant.—It has been decided by election to issue bonds for the construction of an electric-light plant. Address "The Town Clerk."

BURNED.

Belot, Texas.—E. D. Lockey's cotton gin.

Big Sandy, Texas.—B. F. Ingram's cotton gin.

Bonham, Texas.—Craig Murphy's cotton gin; loss \$2000.

Bonham, Texas.—Cary Murphy's cotton gin.

Brookhaven, Miss.—Joe L. Smith's cotton gin.

Canton, Miss.—W. D. Owen's cotton gin. Cedar Hill, Texas.—J. J. Hall's cotton gin. Cedarville, Texas.—J. J. Hall's cotton gin.

Cole City, Tenn.—Southern Mining Co.'s coking plant; loss \$25,000.

Columbia, S. C.—The Columbia Lumber Co.'s mill; loss \$40,000.

Danville, Va.—Tobacco factories of the Hurt Tobacco Co. and of Schoolfield, Boatwright & Co.

Files Valley, Texas.—F. M. Files' cotton gin.

Gatesville, Texas.—Armstrong & Dossey's cotton gin.

Glen Rose, Texas.—The Lanham cottonseed-oil mill on Palerix creek.

Hilda, Va.—Randolph Wachsmann's box factory and saw mill.

Hilda, Va.—Rudolph Wachsmann's saw mill and box factory; loss \$3000.

Kansas City, Mo.—Peet Bros. Manufacturing Co.'s soap factory; loss \$15,000.

Marshall, Texas.—Ben Bechtold's cotton gin.

Neosho, Mo.—The Kiddoo Flouring Mills; loss \$20,000.

New Orleans, La.—Louisiana Cypress Lumber Co.'s dry-kilns, damaged to extent of \$30,000.

Portland, Md.—Patuxent Preserving & Canning Co.'s cannery.

Providence, N. C.—J. S. Grier's cotton gin.

Shreveport, La.—J. M. Arnold's cotton gin; loss \$1600.

BUILDING NOTES.

Abbeville, Ga.—Courthouse.—The board of county commissioners will soon ask for bids on the erection of the proposed \$20,000 courthouse. Plans and specifications by Andrew J. Bryan & Co., of Atlanta, were accepted.

Atlanta, Ga.—Depot.—It is evident that arrangements will be completed in the near future for the construction of a \$250,000 or \$500,000 union passenger depot for the use of the railroads entering the city. The Georgia Railway, the Nashville, Chattanooga & St. Louis and Western & Atlantic will be interested.

Atlanta, Ga.—Courthouse.—Proposals will be opened December 21 for the construction of the courthouse annex, after plans and specifications by Grant Wilkins, engineer, 9½ Peachtree street. Annex to be built is a four-story-and-basement structure, 116x156 feet, of stone, terra-cotta, iron, steel, copper and wood, with plumbing, steam piping, electric wiring, three courtrooms, etc. Blank forms of proposals will be supplied. Address A. L. Kontz, clerk to commissioners of roads and revenues of Fulton county, Atlanta, Ga.

Baltimore, Md.—Dwellings.—Biddle & Parish will erect twenty two-story dwellings, to cost \$12,000; George C. Goldman will erect twelve two-story dwellings, to cost \$900 each.

Birmingham, Ala.—Dwellings.—Contract has been awarded to F. G. Sheppard for the erection of fifty frame cottages; to A. L. McFarland for twenty-five frame cottages.

Brunswick, Ga.—Dwellings.—The Brunswick Dock, City & Improvement Co. will build a number of dwellings.

Charleston, S. C.—Auditorium.—The city council will build an auditorium to cost about \$25,000. Address J. A. Smyth, mayor.

Charlotte, N. C.—Temple.—T. W. Hawkins will erect a temple building, four stories

high, 48x110 feet, to cost \$200,000, after plans by Frank P. Milburn.

Charlotte, N. C.—Hall.—T. W. Hawkins will erect four-story building at a cost of \$20,000, to be used by the Order of Elks. Frank P. Milburn is making the plans.

Chattanooga, Tenn.—Cottages.—Chester Watkins has let contract to F. A. Pogue for the erection of three five-room cottages.

Clarksville, Tenn.—Depot.—The Louisville & Nashville Railroad has let contract to Charles A. Moses, of Chicago, for the construction of a freight depot 176 feet long, 53 feet wide, and with 145-foot shed.

Columbia, S. C.—Church.—The Marion Street Methodist Church will build a new house of worship to cost \$10,000. Address Rev. P. L. Kirton.

Corsicana, Texas—Dwellings.—T. C. Stribling will build a number of dwellings and construct water works for supplying same.

Elizabeth City, N. C.—The projected Citizens' Bank will erect a building for office purposes. Address N. R. Zimmerman.

Fitzgerald, Ga.—Brick Block.—It is stated that P. H. Fitzgerald will erect a brick block, three stories high.

Forsyth, Ga.—Depot.—Bruce & Morgan, of Atlanta, Ga., have prepared plans for passenger station for the Central of Georgia Railway, to be built at Forsyth.

Gastonia, N. C.—Residence.—George A. Gray will build a residence after plans by Frank P. Milburn, of Charlotte; cost, \$5000 to \$6000.

Hopkinsville, Ky.—Mercantile House.—Forbes & Bro. will erect a large addition to their mercantile house; addition to be 100x120 feet.

Jefferson City, Mo.—Opera-house.—The erection of a \$25,000 opera-house is projected. F. B. Miller can give information.

Joplin, Mo.—Business Buildings.—H. B. Glover, of Dubuque, Ia., has purchased land for \$10,000 on which he will erect a business block.

Longview, Ky.—Residence.—J. R. Trundle will erect a residence.

Louisville, Ky.—Residence.—J. H. Hutchins has prepared plans for a \$5000 residence for Prince Wells.

Madisonville, Ky.—Residence.—J. W. Pritchett has awarded contract to Jack Shanks for erection of residence.

McAdenville, N. C.—Residence.—Frank P. Milburn, of Charlotte, is preparing plans to remodel the residence of T. Y. McAden.

New Orleans, La.—Jail.—The city engineer will probably be ordered to prepare plans soon for the proposed city jail. Address "The Engineer."

Newport News, Va.—D. S. Jones has let contract to J. A. Moss for the erection of a four-story 100x25-foot building.

Norfolk, Va.—Courthouse.—Proposals will be received until November 22 for the erection of United States courthouse and post-office building, in accordance with plans and specifications, copies of which may be had on application at office of the architects, Wyatt & Notting, 4 East Lexington street, Baltimore, Md., or at office of supervising architect, James Knox Taylor, Washington, D. C.

Norfolk, Va.—School Buildings.—The opening of bids for the construction of the several school buildings lately reported resulted in the necessity of rejecting all bids, as they were above the appropriations. It will be necessary to appropriate \$40,000 more in order to have the buildings erected after the plans and specifications now on file. New bids will be asked shortly. Address "The Mayor."

Richmond, Va.—Warehouse.—B. D. Chalkley & Co. will build a warehouse, three stories high.

Savannah, Ga.—Cathedral.—Miles & Bradt have obtained contract at \$83,000 to rebuild the burned cathedral.

Savannah, Ga.—Hospital.—Sealed proposals in triplicate will be received until November 10 and then opened for construction of wards and other buildings necessary for a general hospital for 1000 beds. Information furnished upon application. Separate bids will be received for the construction and the plumbing work. United States reserves the right to accept or reject any or all proposals or any part thereof. Envelopes should be indorsed "Proposals for Constructing Hospital," and addressed, Capt. John W. Mcharg, assistant quartermaster of volunteers, Savannah, Ga. Appropriation for the work is \$150,000.

Shreveport, La.—Dwellings, etc.—A brick store and warehouse for the heirs of Simon Levy, Jr., has been let to Contractor F. Denham for \$17,000; residence for M. F. Buvens to J. M. Bartlett for \$2000; cottage for E. B.

Smith to cost about \$2500; plans in preparation for Baptist parsonage to cost about \$3500. Plans for above structures by N. S. Allen, of Shreveport.

Sour Lake, Texas—Hotel, etc.—Capt. S. S. Ashe, of Houston, and H. L. Benson, of San Antonio, propose the organization of a \$100,000 company to erect hotel and make general developments at Sour Lake Springs.

Washington, D. C.—Dwellings.—D. B. Gross will erect two two-story houses, each 18x50 feet, press-brick fronts; John M. Henderson, two houses, each 20x43 feet, press-brick fronts; Metcalf & Lewis, six houses, two stories high, 16-foot front, press-brick fronts.

RAILROAD CONSTRUCTION.

Railways.

Burnett, Texas.—It is reported that business men in Coryell county are interested in the construction of the railroad line between Burnett and Gatesville, a distance of fifty-five miles.

Dallas, Texas.—At a meeting to be held on December 10, stockholders of the Dallas Terminal Railway Co. will decide the question of extending this line to Fort Worth, a distance of thirty-two miles. It is proposed to issue \$1,000,000 in bonds to finance the project. W. C. Connor, at Dallas, is president of the company.

Davis, W. Va.—The Bismarck & Potomac Railroad is to be built from Davis to the Virginia State line, through Tucker, Grant, Hardy and Hampshire counties. The company is chartered with \$100,000 capital. The principal office will be at Martinsburg, W. Va. The promoters are as follows: Samuel B. Shank, Christian R. Herr, Benjamin H. Neshavy, Powell Evans, Samuel Mason, Henry W. Stokes and B. Gilpin Smith; the last four named are of Philadelphia.

Denmark, S. C.—The Atlantic Coast Line is soliciting bids for the grading and trestle work on the branch between Denmark and Robbins, S. C., referred to in previous issues of the Manufacturers' Record. The length of the branch will be thirty-four and seven-tenths miles. Bids will be received until November 4 by F. Gardner, chief engineer, at Wilmington, N. C.

Dothan, Ala.—It is reported that both the Central of Georgia Railroad Co. and the Plant system are surveying lines from Dothan. The first survey is from Columbus and the second is from Hartford to Dothan. B. Dunham, at Savannah, is superintendent of the Plant system, and John W. Egan, also at Savannah, is vice-president of the Central of Georgia.

Fayetteville, Tenn.—J. W. Thompson, president of the Middle Tennessee & Alabama Railroad, writes the Manufacturers' Record that about five miles of extension will be built during the next year.

Fort Worth, Texas.—It is announced that Hon. B. B. Paddock, one of the promoters of the Fort Worth & Northwestern Railroad Co., has succeeded in floating bonds which will insure the construction of about 120 miles of this line.

Fredericksburg, Va.—It is stated that the English parties who have been associated with the Virginia, Fredericksburg & Western project have again taken it up, and that contracts may be let in the near future. One of the local movers in the enterprise is Hon. William A. Little.

Jacksonville, Ark.—It is stated that the White River, Lonoke & Western Railroad has been completed from Wooley, Ark., to Seaton. J. N. Wooley is general manager at Jacksonville.

Monroe, La.—It is announced that surveys have been completed for the railroad between Monroe and Natchitoches, La., a distance of eighty miles. I. W. Sylvester, at Alexandria, La., is engineer.

Nashville, Tenn.—It is reported that grading is to be commenced on the Tennessee Central Railroad about November 15. Thos. McFarland, of Knoxville, has secured one of the contracts, it is reported.

New Orleans, La.—The New Orleans & Western Railroad Co. it is stated, has revived the plan of building an extension to Avondale, one of the suburbs of the city. C. B. Vannostrand is receiver of the company.

New Orleans, La.—It is stated that the Illinois Central Railroad Co. is considering the construction of a branch into St. Tammany parish. The road will probably be built from Ponchatoula to Covington, a distance of twenty miles. J. T. Harahan, at Chicago, is vice-president of the company.

Petersburg, Va.—It is reported that all contracts have been awarded for completing

the Richmond, Petersburg & Carolina Railroad between Richmond and Ridgeway, N. C., except twenty miles. DeWitt Smith, 50 Broadway, New York, is president of the railroad company.

Philadelphia, Miss.—It is reported that surveyors in the interest of the Illinois Central system are going over a route from Philadelphia to Fentress Station, on the Central. The route is through Winston and Neshoba counties, and is thirty-seven miles long. J. T. Harahan, at Chicago, is vice-president of the Central.

Rockford, Ala.—J. W. Batson, one of the promoters of Rockford & Kellyton Railroad, informs the Manufacturers' Record that the line will be about fifteen miles long, running between the two towns. John L. Cowan, of Opelika, Ala., is engineer. Contractors should address Mr. Batson, as above.

Rome, Ga.—It is reported that the Chattanooga, Rome & Southern has about completed arrangements for building the proposed branch to the Lavender ore mines. C. B. Wilburn, at Rome, is president of the company. Mr. Wilburn informs the Manufacturers' Record that the company is figuring on building one or two branches.

Salem, Va.—It is reported that the business men of Salem are agitating an extension of the Valley branch of the Baltimore & Ohio Railroad to this point.

Shreveport, La.—It is stated that the Shreveport & Red River Valley Railroad Co. is considering an extension of its line from Campi, La., to Shreveport, a distance of fifty miles. Clarence Ellerbe is one of the principal promoters of the road, at Shreveport.

Sugarland, Texas.—The promoters of the proposed railroad along the Brazos Valley have appointed committees to obtain stock subscriptions and right of way for the route, which is to a connection with the Sugarland Railroad. S. D. Porter and John Juliff are among the principal promoters of the enterprise. It is stated that E. H. Cunningham, president of the Sugarland Railroad, of Sugarland, is also interested.

Thomas, Ala.—The Pioneer Mining Co. is about to let contracts for a short line to its coal beds near North Birmingham. A. Keeler is superintendent.

Washington, D. C.—The Washington & University Railroad Co. has received authority to float bonds to construct its electric line in the suburbs. The issue will aggregate \$175,000. J. D. Croissant, Room 31, Ohio Bank Building, is president of the company.

Street Railways.

Beaumont, Texas.—A company has been formed by the promoters of the street railroad line, in which J. F. Keith and James F. Ward are interested. It is calculated that about four miles of the railroad can be built at a cost of \$30,000.

Charleston, W. Va.—W. W. Hazzard, of Cleveland, O., one of the owners of the Charleston Electric Railway, writes the Manufacturers' Record that about one mile of additional track is to be laid with 60-pound T rails.

Fort Smith, Ark.—What is to be known as the Fort Smith Traction, Light & Power Co., with the following incorporators, has been formed: Samuel McLoud, Alfred N. Sicard, Ella E. Sicard, Richard C. Kerens, of St. Louis; Charles H. Smith, J. E. Foster, Jos. M. Hill and James Brizzolara. The company proposes to operate an electric street railway in the city of Fort Smith. The company's capital stock is \$200,000.

Richmond, Va.—It is reported that the Richmond Railway & Electric Co. has determined to relay its electric lines in the city with girder rails. Andrew Pizzini is manager of the company.

A Bit of Unasked Advice.—The San Francisco Commercial News and Shipping List, referring to the lumber rafts from the Columbia river, says: "If more rafts are to be built, the engineers may take a hint from the river boat builders, and put a species of hog chain to stiffen the structure, as the river boat is stiffened; then compel the towboat to have on board a Shaw & Spiegel towing machine, so that the strain on the hawser will be avoided, reduce the length of the raft, say, one-half; and persuade the builders to sell the structure on the f. o. b. Columbia river basis for net spot cash without recourse. The next raft might, with these suggestions carried out, prove a good venture to some one. Certainly if the towing-machine proposition is accepted and carried out, this coast will gain by having improved towing machinery, and that will partly offset the raft nuisance." The Shaw & Spiegel towing machine is made by the American Ship Windlass Co., Frank S. Manton, agent, of Providence, R. I.

Furniture Machinery.—J. W. Riggins, president, Waco, Texas, wants prices on machinery for furniture manufacture, including iron beds.

Gasoline Engine.—Kansas City & Southern Lumber Co., Springfield, Mo., is in the market for a 25-horse-power second-hand gasoline engine for planing mill.

Hydraulic Hoisting Apparatus.—Columbus Power Co., Columbus, Ga., will be in the market for apparatus to hoist large gates by hydraulic pressure, consisting of large cast-iron cylinders about sixteen inches in diameter and ten feet long, with pistons and piston-rods, double extra-strong pipe and fittings, and one high-pressure pump; pressure to be about 1000 pounds per square inch. For specifications and other particulars address William C. Whitner, chief engineer.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Assaying Outfit.—Wharton Anderson, Dahlonega, Ga., wants a second-hand assaying outfit.

Baling Press.—See "Compress."

Belting.—See "Rubber Goods."

Boat Builders.—John F. Knowles, 12 East Alabama street, Selma, Ala., wants addresses of Southern boat builders.

Boiler.—See "Water System."

Boiler.—Hubbard & Co., 708 Merchants' Bank Building, Baltimore, Md., are in the market for a 125-horse-power return tubular boiler.

Boiler and Engine.—John F. Knowles, 12 East Alabama street, Selma, Ala., wants prices on marine engine and boiler of thirty horse-power.

Boiler and Engine.—Gilbert Larue, Fairmount, Ind., is in the market for a 14x16 automatic engine and two 54x64-inch horizontal tubular boilers, with steam and exhaust pipes, lime-extracting heater, duplex boiler feed pump.

Brick Machinery.—Gaffney Vitrified & Press Brick Co., Winchester, Ky., wants to buy a dry-press-brick machine.

Bridge.—Bids will be opened November 14 for construction of steel bridge of 100 feet span, with approaches, at Houston, Texas. Plans and specifications now on file in city engineer's office, Houston, Texas; I. Austin Miller, engineer.

Canning Machinery.—G. E. Shuey, Medina, Ind., wants addresses of canning-machinery makers.

Canning Machinery.—Williamsburg Canning Co., Williamsburg, Va., is in the market for a canning outfit.

Compress.—American Fiber Co., Jacksonville, Fla., wants a screw for pressing cotton for small baling, about 100 pounds of hay; company wants plain, old-style screw press.

Dredging Plant.—Dr. G. B. Martin, 935 Stevenson Block, Indianapolis, Ind., wants to get sand or gravel out of river bed.

Electrical Machinery.—Gilbert Larue, Fairmount, Ind., is in the market for complete electrical supplies, including forty street arc lamps of enclosed 220-volt type. (See "Boiler and Engine.")

Electric-light Plant.—Portsmouth Coal & Ice Co., Portsmouth, Va., shall need dynamo and material for insulation.

Electric-light Plant.—Virginia Tanning & Extract Co., Big Stone Gap, Va., wants to buy an incandescent dynamo of from 150 to 250 16-candle-power light capacity, either new or second-hand; or would buy machine for making both arc and incandescent current.

Engine.—R. L. Fleenor, 157 Preston street, Jackson, Tenn., wants prices on portable engine, about twenty horse-power.

Flour Mill.—W. W. Coble, Hokes Bluff, Ala., wants a set of buhrs for grinding wheat.

Furniture Machinery.—Wanted — A case press for bureaus. Address Lock Box 35, High Point, N. C.

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Gasoline Engine.—Kansas City & Southern Lumber Co., Springfield, Mo., is in the market for a 25-horse-power second-hand gasoline engine for planing mill.

Hydraulic Hoisting Apparatus.—Columbus Power Co., Columbus, Ga., will be in the market for apparatus to hoist large gates by hydraulic pressure, consisting of large cast-iron cylinders about sixteen inches in diameter and ten feet long, with pistons and piston-rods, double extra-strong pipe and fittings, and one high-pressure pump; pressure to be about 1000 pounds per square inch. For specifications and other particulars address William C. Whitner, chief engineer.

Iron-bed Machinery.—See "Furniture Machinery."

Ironworking Machinery.—Daniel Pratt Gin Co., Prattville, Ala., will want ironworking machinery in sixty days.

Irrigation Equipment.—Welman Bradford, Crowley, La., wants estimates on cost of irrigation system of 156,000,000 gallons capacity per twenty-four hours. The lift is from eighteen to thirty-six feet, depending on the stage of the water which will be pumped. Correspondence from the builders of pumps is solicited.

Knitting Machinery.—Annestown Cotton Mills, Stone Mountain, Ga., is in the market for six or eight full automatic hosiery-knitting machines.

Logging Locomotive.—See "Railway Equipment."

Machinery and Tools.—Bids will be opened November 15 for furnishing Navy Yard, Norfolk, Va., a quantity of machinery and tools. Blank proposals furnished on application to Edwin Stewart, paymaster-general, Navy Department, Washington, D. C.

Machine Tools.—Valley Iron Works, Williamsport, Pa., is in the market for a triple-gearred engine lathe, 48-inch to 50-inch swing, twelve feet to fourteen feet between centers; new or second-hand.

Machine Tools.—American Copper and Brass Works, 427 East Front street, Cincinnati, O., is in the market for a punching machine (second-hand) to punch up to a 2½-inch hole, with a 20 or 24-inch throat.

Marine Machinery.—See "Boiler and Engine."

Poles.—Rawlings & Mangus, Vesuvius, Va., are in the market for 35-foot poles.

Pulp and Paper Machinery.—I. C. Thompson, Thomaston, Ga., wants information regarding the manufacture of wood pulp from pine timber for the manufacture of paper; also wants addresses of parties manufacturing wood-pulp machinery.

Pump.—See "Water System."

Pumping Engine.—Bids will be received at Oil City, Pa., until December 5, for one vertical cross-compound crank and fly-wheel pumping engine, of 3,300,000 gallons capacity, to conform to specifications on file in city engineer's office, copies of which will be furnished on application. Bond in the sum of \$20,000 must accompany the bid, and the city reserves usual rights. Address Park C. Porter, clerk of water board.

Pumping Plant.—See "Dredging Plant."

Pumps.—See "Irrigation System."

Railway Equipment, etc.—Bids will be opened November 4 for grading and trestle work on extension of Atlantic Coast Line Railway from Deumark, S. C., to Robbins, S. C., a distance of 34.7 miles. Work is divided into six sections of about five and one-half miles each, and must be completed by May 1, 1899. Profiles, specifications, etc., can be seen at office of company in Wilmington, N. C.; F. Gardner, chief engineer.

Railway Equipment.—Lum Machinery Co., Montgomery, Ala., wants a 10 to 12-ton logging locomotive; new or second-hand.

Rubber Goods.—J. F. Trollinger, Conetoe, N. C., wants addresses of makers of rubber clothing, belting and other goods.

Wagon Stock.—C. D. Franke & Co., 225 Meeting street, Charleston, S. C., want by January 1 carload of first-quality seasoned hickory axles in rough, varying in size from 3x4 to 5x6x6½ feet in length.

Watchman's Clock.—Florence Cotton Oil Co., Florence, Ala., wants a watchman's clock or watch.

Water System.—Guilford College, High Point, N. C., wants a boiler of eight to ten horse-power and a steam pump capable of throwing 1000 gallons of water daily; second-hand machinery would answer. Address J. Elwood Cox.

Woodworking Machinery.—See "Furniture Machinery."

Woodworking Machinery.—W. W. Cobia, Hokes Bluff, Ala., wants a planer.

Woodworking Machinery.—J. E. Ericson, Box 575, Fitzgerald, Ga., wants machinery for barrel manufacturing and general woodworking; also for saw mill.

Woodworking Machinery.—Daniel Pratt Gin Co., Prattville, Ala., will want woodworking machinery in sixty days.

Woodworking Machinery.—Southern Shuttle & Bobbin Co., Westminster, S. C., wants self-feeding saws for cutting bobbin and shuttle timber.

Woodworking Machinery.—See "Furniture Machinery."

Woodworking Machinery.—R. L. Fleenor, 137 Preston street, Jackson, Tenn., wants one large and two small saws for spoke and handle timber; second-hand will answer if in good condition.

TRADE NOTES.

Laundry Installed.—The Wilson Laundry Machinery Co., of Columbia, Pa., has completed the installation of the modern laundry plant in the Naval Academy at Annapolis, Md.

Electric-light Plant.—Jeanette (La.) Lumber Co. has awarded contract to Messrs. Tower, Blankenship & Binford, of 704 East Main street, Richmond, Va., for the installation of an isolated electric-lighting plant in its mills.

Oil-mill Machinery.—Among recent contracts filed by the Buckeye Iron and Brass Works, of Dayton, O., was one for furnishing a Buffalo firm twenty-four of its new 20-box "Buckeye" presses, together with heaters, pumps, cake formers, etc.

The American Woodworking Machine Co. in Philadelphia.—The American Woodworking Machine Co. has recently established a sales department at the Goodell & Waters branch, 3101 Chestnut street, Philadelphia. At this house the company proposes to carry a line of machines on exhibition and where visitors to the city are cordially invited to call.

Artesian Well Contractors.—Messrs. Perry Andrews & Bro., of Atlanta, Ga., report continued success for their business, and many contracts are on hand or in sight. The firm has had an experience of fourteen years in the Southern States, and deems itself competent to drill artesian wells and for other drilling work, and points to its success as a proof of competency.

Manufacturing Logging Cars Now.—The well-known railway equipper of Chicago, Mr. L. K. Hirsch, now has a plant of his own at Chicago Heights for manufacturing logging cars. Mr. Hirsch has his offices in the Rookery Building, where he handles a general line of railway equipment. He has just closed a large contract in competition for rails to go to old Mexico.

Large Brick Plant.—In a few more weeks the new plant of the Gaffney Vitrified & Press Brick Co., of Winchester, Ky., will be completed, with a capacity of 1,500,000 bricks per month. The company has on hand already orders for over 6,000,000 bricks, and is ready to correspond relative to new contracts. High-grade vitrified brick for street paving, heavy foundations and sewer work compose the product of the plant.

The Worthington Pumps.—Henry R. Worthington, the well-known pump manufacturer, is building for a large mill near Buffalo a 750-gallon electrically-driven fire pump. The pump is a horizontal triplex, of the differential plunger type, having exceptionally large valve area to enable it to run at a high piston speed. It is connected by a single reduction of cut gears to a 75-horsepower General Electric Co. motor.

Cotton-mill Machinery Sold.—Mohawk Valley Cotton Mills, of Utica, N. Y., has placed a large repeat order for 45-inch revolving flat cards and drawing frames; York Manufacturing Co., Saco, Me., has placed a large order for roving frames, and Eagle & Phoenix Mills, of Columbus, Ga., has placed a repeat order for revolving flat cards and roving frames. All these contracts were secured by the Saco & Pettee Machine Shops, of Newton Upper Falls, Mass.

Worthington Pumps.—The Chicago house of Henry R. Worthington (of New York) has closed a contract to supply a 25-M. cooling tower, which has the novel feature of being elevated about forty feet and being filled with tile filling. The St. Louis office of the same corporation has filed an order for fifty five-eighths-inch meters of '98 pattern for shipment to Lincoln, Neb., this order having been obtained in competition with manufacturers of rotary and disc meters.

Chicago Sales Agents for Salem Elevator Buckets, etc.—The W. J. Clark Co., of Salem, O., has appointed the Skillin & Richards Manufacturing Co., of 241 South Jefferson street, Chicago, its sales agent for Western and Southern States. An assortment of the Salem company's goods amounting to \$10,000 will be shipped to the Chicago company for the inspection of those interested. The Salem elevator buckets are in popular use in the mines of the Northwest, as well as in the flour mills, grain elevators, coal and ore elevators in all parts of the United States and Canada.

Cabling from Cuba for a Street Roller.—Santiago de Cuba, October 25, 1898.—Pope Roller, St. Louis, Mo.: Ship immediately government transport quartermaster New

York "Empire" five-ton revolving wheel net cash government discount. Wood, commanding." The foregoing is a copy of cable message ordering the first roller for Cuba. It is worthy of public notice that the first step towards civilization is to have a good roller supplied by the Pope Reversible Street Roller Co., of St. Louis, while very recently one of the same weight and kind was shipped to build the roads and streets at Kingston, Jamaica.

Some Hydraulic Orders.—Orders for three 100-inch hydraulic riveters for Pittsburgh; one complete hydraulic plant, consisting of one 10-foot 6-inch 75-ton three-pressure hydraulic riveter, one 10-ton 40-foot hoist hydraulic crane, one eight-inch accumulator and one hydraulic pressure pump for Cleveland, O.; one 1000-ton hydraulic press for Allegheny, Pa.; one four-ton hammer for Portsmouth, O.; one 600-pound hammer for Detroit, Mich.; one 800-pound hammer and one 225-horse-power engine to the New York Navy Yard, are all recent contracts of the Chambersburg Engineering Co., Chambersburg, Pennsylvania.

Fire! Fire!! Fire!!!—"Office of Long Island State Hospital, King's Park, N. Y., October 21, 1898. The Utica Extinguisher Co., Utica, N. Y.: Gentlemen—Please send us 100 of your three-gallon-size, full-nickel-finish Improved "Utica" hand chemical fire extinguishers, and oblige, truly yours, F. O. Wheeler, steward." (Copy of order received October 22, 1898.) In August last the Utica Extinguisher Co. received an order from the Binghamton State Hospital, Binghamton, N. Y., and since that time has had orders from the Utica State Hospital, Utica, N. Y., and the St. Lawrence State Hospital, Ogdensburg, N. Y. These orders indicate fast gaining popularity.

Business Improving.—Our general business is better than it has been in the past five years, and prospects for the coming year are very bright. At our factory at Beloit, Wis., we are working all hands ten hours a day, and are obliged to work overtime part of the time. We are making large shipments of our own specialties to South America, and are in receipt of numerous inquiries from Russia, Germany, France and England concerning same." The foregoing is quoted from a letter of Messrs. Charles H. Besly & Co., of 10 North Canal street, Chicago, manufacturers of and dealers in fine tools, hardware, seamless tubes, sheet brass, copper and brass wire, "Helmet" oil, etc.

Safes to Peru and Turkey.—A large order for safes will be shipped from New York by November 1, via New York, to Callao, Peru. An order for safes from Bagdad, Turkey, will also be shipped in the near future, the contract having just been received. The two foreign orders here mentioned will be filled by the Cincinnati Safe & Lock Co., of 59 Elm street, Cincinnati, O. This company has been especially active in introducing American-made safes in distant countries, where its product has found much favor with those who have purchased. The Bagdad order is not the first received from that Oriental city, and, in fact, the Cincinnati company's product has been received with so much favor there that a regular agent has been appointed. The company has other orders now in transit, including one for New Zealand and one to Australia.

Magnificent Decorations in Bronze.—The new "Memorial Hall" for the G. A. R. in Chicago will be dedicated this month. Memorial Hall is still bare in its classic elegance, a sort of symphony in green and gold, to the gold part of which J. J. Ryan & Co., of Chicago, have just made a very conspicuous and artistic addition. Mr. Ryan and J. J. Hayes concluded they could compete with the East, or Paris or London, in their big shop in West Monroe street, in the matter of work in bronze. The designs were made, the trimmings shown, and the committee told the Western firm to go ahead. The six long cases are now on exhibition in the hall. They are not unlike those in the rooms of the palace of the Paris Louvre, where historical bric-a-brac is shown. The bronze of the upper parts shines like gold and is lacquered. The six legs to each case are slender and graceful, the heavy part at the top of each being ornamented with Grand Army and patriotic emblems. The beauty of this work will increase with time, as age brings on the verdigris coloring.

Progress of Enclosed Arc Lamps.—The steady supersession of the open arc lamp on multiple circuits by the enclosed arc lamp is a gratifying sign of actual progress. Within the past few months the Missouri Edison Electric Light Co., of St. Louis, Mo., has placed not less than 700 General Electric single-globe enclosed arc lamps upon its alternating-current circuits. These are used for interior illumination, and are giving very satisfactory service. They replaced 18-ampere 30-volt open-arc alternating lamps. In the dry goods department of Boggs & Buhl, of Allegheny, Pa., there has been installed not less than 200 General Electric enclosed arc lamps of the double-globe type. The whiteness of the light enables purchasers to select their goods with the assurance that the colors will not prove different when brought to the light of day. The May Shoe and Clothing Store, in Denver, is now brilliantly illuminated throughout by 130 General Electric enclosed arc lamps, of both the single and double-globe type. The use of these lamps for store and window lighting is steadily increasing as the advantages they present over other means of illumination become better understood.

New London Coal Station for United States Navy.—The New London Coal Station for the United States Navy will be built after the plans prepared by the Brown Hoisting & Conveying Machine Co., of Cleveland, O., and 26 Cortlandt street, New York. The contracts for this work have just been awarded by the Bureau of Yards and Docks to J. W. Hoffman & Co., of Philadelphia, who bid exclusively on the Brown Hoisting Co.'s plans, which were accepted from among twelve bidders, Hoffman's bid being \$56,000 higher than the lowest bid. The award was made on account of the superior plans. The Brown Hoisting & Conveying Machine Co. will furnish and erect two extra-heavy bridge tramways, the same as those now being supplied to the United States Navy at Key West and Dry Tortugas. These bridges are of 180-foot span, with 92-foot cantilever extensions and 36-foot projection over the front of dock. Messrs. J. W. Hoffman & Co. will build the necessary piers and buildings to accommodate this machinery. This is the fifth coaling station awarded so far by the Navy Department, the coal-handling machinery for all of them being furnished by the Brown Hoisting & Conveying Machine Co.

TRADE LITERATURE.

Telephone Bulletin.—The Farr Telephone & Construction Supply Co., of Chicago, has issued a new monthly bulletin which gives much information to telephone users. Many new products are illustrated in this bulletin, and readers of the Manufacturers' Record interested in telephone work will do well to write for a copy.

M. C. B. Interchange Rules.—A neatly-bound leather-covered pocketbook, with memorandum pages and receptacle for money or cards, has been issued by the McConway & Torley Co., of Pittsburg, Pa., manufacturer of malleable iron castings (and sole maker of the Janney coupler for passenger and freight cars). The little book in question is a catechism of the M. C. B. interchange rules, which have been prepared for the use of car inspectors and others who are interested in the interchange of freight cars. The booklet is of practical value to those interested, and copies of it may be obtained on addressing the company above referred to.

Efficient Power Pumps.—One of the most prominent pump builders in this country is the Goulds Manufacturing Co., of Seneca Falls, N. Y., whose 1898 catalogue, "Goulds Efficient Power Pumps for Every Service," is now before us. This catalogue is most complete in its illustrations and descriptions of the different machines manufactured by the Goulds Company. The Goulds Manufacturing Co. was among the first to recognize the superiority of the triplex pump and the first to apply it to pumping operations generally. All the Goulds pumps ordered are guaranteed when completed and installed to properly and satisfactorily perform the work for which they may have been intended.

New Method of Pumping by Compressed Air.—A pamphlet issued by the Pneumatic Engineering Co., of 100 Broadway, New York city, is entitled "A New Method of Pumping Water, Other Fluids and Semi-fluids by Compressed Air—Some Facts About the System." This pamphlet will be found of absorbing interest to those who use, or contemplate using in the future, compressed air as a power for any purpose. The new system referred to is introduced under the patents issued to Elmo G. Harris, professor of civil engineering in the school of mines of the University of Missouri. Professor Harris is well known as a writer on compressed-air topics, especially in connection with pumps and pumping systems, and as an analyst of the theories governing such as have been widely quoted. Everyone interested in

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compressed air should request a copy of this pamphlet.

Williams Crusher and Pulverizer.—The necessity for the reduction and disintegration of many materials in the industrial world has been productive of many machines for crushing and pulverizing. Among the most prominent of these pulverizers and crushers is the Williams patent crusher and pulverizer. This device is fully explained and treated in the booklet issued by the Williams Patent Crusher & Pulverizer Co., of St. Louis, Mo., maker of the machine. This company has lately changed its Eastern office from Philadelphia to the Washington Life Building, New York city. Business for the year has been very gratifying, and an addition to the works at St. Louis has been made necessary by the growth of the company's mill business. The multitudinous materials that the Williams will crush and pulverize makes the demand for this machine a constantly-growing one.

Hoisting and Conveying Apparatus.—In submitting the present edition of its catalogue, the Lidgerwood Manufacturing Co. desires to call attention to the fact that it has greatly systematized, perfected and improved its shop organization during the past year. All its work, as heretofore, is done on the duplicate-part system, comprising complete sets of gauges and templates, which insure absolute accuracy, and like parts of the same size engines are perfectly interchangeable. Other important points which tend to make the company's efficiency of a degree not exceeded are called to the attention of readers of the 1898 catalogue. The Lidgerwood Manufacturing Co. has offices at 96 Liberty street, New York city. Its complete line of machinery includes hoisting engines, boilers, suspension cableways, log-hauling machinery, hoisting and conveying machinery and "Temperley" transporters.

Wrought-steel Fences.—The use of metal fences continues to increase rapidly. There are many manufacturers at present supplying this product, among whom there is one which claims that twenty-five years of increasing business is ample proof of its ability to please customers. To these customers the company refers as to its mechanical skill and fair dealing. Catalogue "F" is presented to present and prospective users of fences. It is prepared with the view of accommodating the different ideas entertained by customers as to the proper height and size of picket of a fence for their special purpose, be it a yard, cemetery or public ground enclosure. From the catalogue can be selected the various combinations; in fact, a purchaser can construct his own fence on paper, and the Valley Forge, H. O. Nelsen, Knoxville, Tenn., does the rest. Wrought-steel fences exclusively form the company's product.

Reconstructed Granite.—This material is not an imitation stone, but is true natural granite, pulverized and reformed under pressure and intense heat into ornamental blocks for architectural purposes. It is claimed that the product is not only equal in appearance to the natural stone, but superior to it in durability, strength and resistance to the effects of fire, acid, water, frost, etc. It can be easily cleaned when discolored by smoke or filth. This product is worthy of investigation by those desirous of keeping up with the times, and a descriptive leaflet can be secured by writing the maker, the Reconstructed Granite Co., of 14 Dey street, New York city. The company has an extensive plant, embracing nearly seven acres of land, with shipping facilities enabling it to compete with the entire country. The company solicits opportunities to bid upon plans and specifications in competition with either granite or terra-cotta.

Improved Brush Arc Lamps.—The foregoing is the title of an artistic brochure just issued by the General Electric Co. dealing with the modifications introduced in the latest types of single and double "Brush" arc lamps as experience with the operation of past types has dictated. Each detail of improvement is explained clearly and concisely, and in conjunction with first-class half-tone illustrations, so that even persons unfamiliar with the "Brush" lamp mechanism will find no difficulty in grasping the import of the various changes and improvements. The leading features are summarized, each under its own heading, and the brochure concludes with a full catalogue of the parts not only of the improved lamp, but also of lamps 30 and 31. The pamphlet is issued from the General Electric Co.'s own printing office, and in general artistic appearance, letter-press and illustrations compares well with the work of our

best catalogue makers. Sent to those interested on application to any of the sales offices.

Artificial vs. Mechanical Draft.—In the discussion of artificial vs. mechanical draft, to which the B. F. Sturtevant Co., of Boston, Mass., has contributed so much in its admirable treatise, entitled "Mechanical Draft," there occurs the following pertinent quotation from W. S. Hutton: "Artificial draft can be readily adjusted to effect the combustion of different kinds of fuel at different rates of combustion. It permits efficient combustion of fuel of inferior quality, and enables a steady supply of steam to be maintained, independent of climate and weather. It enables the supply of air to be properly distributed to the fuel in the furnace to effect economical combustion. The supply of air above the fuel can be readily adjusted to effect combustion of the gases evolved by the fuel, and the supply of air below the fuel can be regulated to effect the combustion of the solid portion of the fuel, and the movement of the hot gases can be readily controlled."

Evolution of Steelmaking.—"Crescent Steel" is the title of a booklet which comes to us covered with a protection cover of lined paper. The application of the mechanic arts to important constructions in iron and steel has come about within a comparatively recent period of the world's history, and in the little booklet in question the history of this evolution is hastily but accurately sketched in a manner that is most interesting—interesting not only to those whose business deals with steel in some manner, but of more than common interest to those who are interested in the progress of the industrial world as a matter of information only. The scenes presented of different operations in an immense steel plant attract considerable attention also, and the particularly handsome illustrative (lithographic) and letter-press work is a "thing of beauty." The Crescent Steel Co., of Pittsburgh, which has one of the most complete steel and iron plants in the world, issues this booklet, and will be pleased to furnish copies on application.

An Elegant Souvenir.—An elegant wall hanger, or poster, has been issued by the Egan Company, Cincinnati, O., which makes a full and complete line of all kinds of machinery for working wood. The poster is handsomely designed and is printed in two colors, red and blue, and, being on fine white paper, makes that patriotic combination of colors contained in Old Glory. This poster shows about 100 of the latest improved machines, specially adapted to planing mills, carpenter, sash, door and blind work, furniture, chair and bracket factories, car, railway, bridge and agricultural works, buggy, carriage and wagon builders, spoke, wheel and handle factories, colleges, technical schools, State institutions, navy yards, etc., and every user of machinery should have one of these hung up in his office to refer to. The company mentioned has had a special corps of expert mechanics and draughtsmen at work for the past year or eighteen months whose only duties have been to design machines on advanced principles and improve those already built.

Personally-Conducted Tours via Pennsylvania Railroad, Season of 1898-9.

The personally-conducted tourist system of the Pennsylvania Railroad Co. is the final evolution of absolute perfection in railway travel, the summit of the excellence of modern luxurious railway facilities.

For the season of '98 and '99 it has arranged for the following tours:

California.—Tour will leave New York, Philadelphia, Harrisburg, and Pittsburg, February 9. Nineteen days will be spent in California. The party will travel over the entire route by the "Golden Gate Special," the finest train that crosses the continent.

Florida.—Four tours to Jacksonville will leave New York and Philadelphia January 24, February 7 and 21, and March 7. The first three of these admit of a sojourn of two weeks in the "Floridian State." Tickets for the fourth tour will be good to return by regular trains until May 31, 1899.

Tickets for the above tours will be sold from all principal points on the Pennsylvania Railroad. For detailed itineraries, giving rates and full information, address Thos. E. Watt, passenger agent Western district, Pittsburgh; B. Courlaender, Jr., passenger agent Baltimore district, Baltimore; C. Studds, passenger agent Southeastern district, Washington, or Geo. W. Boyd, assistant general passenger agent, Philadelphia.

MANUFACTURERS' RECORD.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

New Corporations.

DeCoursey Thom, of Baltimore, and others are interested in a proposed bank at Queenstown, Md.

A new bank will be opened at Myerstown, Md., with A. Young, president, and George W. Wachtel, treasurer.

The International Investment Co. of St. Louis has been incorporated, with \$50,000 capital, by Thomas Hodges, T. J. Norman and others.

The Commercial Bank of Shelbina, Mo., has been formed, with capital stock of \$30,000; incorporators, T. M. Sparks, C. B. Martin, A. E. Jones and others.

The application of the following persons for authority to organize the People's National Bank of Warrensburg, Mo., with a capital of \$50,000, has been granted: A. J. Redford, E. F. Tracy, O. L. Houts, L. J. Schofield, C. H. Dutcher.

New Securities.

Gaffney City, S. C., is about to sell \$18,000 worth of 5 per cent. bonds for water-works purposes. A. N. Wood may be addressed.

The city of Carrollton, Mo., has voted in favor of issuing \$50,000 in bonds for improvements. The mayor will give further information.

The voters of Talbot county, Maryland, will decide on the question of issuing bonds for railroad improvements at an election to be held November 8.

The Maryland Trust Co. of Baltimore has been appointed trustee for the bond issue by the Newport News & Old Point Railway & Electric Co. The issue amounts to \$900,000 in all.

The bonds recently offered for sale by the city of Norfolk, Va., attracted bidders from Cincinnati, New York, Baltimore, Chicago and Richmond. Messrs. Mottu, DeWitt & Co., of Norfolk, were the purchasers, taking the entire issue for \$606,966. The bonds bear 4 per cent. interest. The face value was \$500,000.

Dividends and Interest.

The Fidelity Trust & Vault Co. of Louisville has declared a quarterly dividend of 2 per cent.

Interest due on bonds of the city of Louisville, Ky., will be paid by the Bank of America at New York.

The interest due on bonds of the Mobile Street Railroad Co. will be paid by the Canal Bank at New Orleans.

Coupons due November 1 on the 5 and 8 per cent. bonds of Staunton, Va., will be paid at the banking house of Townsend Scott & Son, of Baltimore.

Financial Notes.

A. Stiewell has been appointed president of the Bank of Little Rock, Ark., in place of Maxwell Coffin.

The insurance men of North Carolina have organized a State association, with Mr. Alexander Webb, of Asheville, president.

Steam Towing Machine.—We notice the launch of the steamer S. T. Morgan lately at the yards of the Harlan & Hollingsworth Co., Wilmington, Del., for the Virginia & North Carolina Chemical Co., of Richmond, Va. This steamer has the Shaw & Spiegle automatic steam-towing machine, built by the American Ship Windlass Co., of Providence, R. I. The Virginia & North Carolina Chemical Co. are evidently wide-awake people, and intend to avail themselves of the very best facilities for the transaction of their business.

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Winter Excursion Tickets on the Pennsylvania Railroad.

On November 1 the Pennsylvania Railroad Co. will place on sale at its principal ticket offices excursion tickets to all prominent winter resorts in New Jersey, Virginia, North and South Carolina, Georgia, Florida and Cuba. The tickets will be sold at the usual low rates, with the usual liberal return limits.

The magnificent facilities of the Pennsylvania Railroad, with its many connections, make this the favorite line for winter travel.

An illustrated book, descriptive of winter resorts, and giving routes of travel and rates for tickets, will be furnished free after November 1 on application to ticket agents.

Hambleton & Co.

Bankers and Brokers,

Members New York and Baltimore Stock Exchanges.

9 South Street, BALTIMORE.

High-grade Investment Bonds, Municipal, Rail-

way, Industrial.

Letters of Credit Available Everywhere.

JOHN L. WILLIAMS & SONS,
BANKERS,

Dealers in RICHMOND, VA.

Southern Investment Securities,

MUNICIPAL BONDS A SPECIALTY.

Correspondence Invited.

COTTON.

We call your attention to the price of Cotton.

It offers great inducements to Investors.

Cotton is not perishable, and is known to have been stored for twenty years.

Information given, or any questions cheerfully answered on this subject.

Send for booklet on Cotton as an investment.

S. MUNN, SON & CO.

56 Beaver St., New York.

J. WM. MIDDENDORF.

Members Baltimore Stock Exchange.

WM. B. OLIVER.

MIDDENDORF, OLIVER & CO.
BANKERS AND BROKERS,

No. 213 E. German Street, [KEYSER BUILDING.]

Baltimore, Md.

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange

Drafts on Europe and Letters of Credit furnished.

Southern Investments.

Stocks, Bonds and Industrials.

American Promoting & Trust Co.

23 Doane St., BOSTON.

WM. B. OLIVER.

Members Baltimore Stock Exchange.

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	Barber Asphalt Paving Co.	23	Detroit Lubricator Co.	18	Jones & Laughlins.	16				
	Barnes, W. F. & John, Co.	12	Disston, Henry, & Sons.	29	Johns, H. W., Mfg. Co.	31				
	Barnett, G. H., Co.	44	Dixie Foundry & Machine Co.	13	Johnson, W. C., & Sons Mch. Co.	25				
	Bartlett, John H.	25	Dopp, H. Wm., & Son.	21	K	Keeler, E., Co.	16			
	Bates', James, Sons.	6	Dow Wire Works Co.	30	Kelly, O. S., Co., The.	37				
	Beach, H. L.	28	Draper Co.	34	Keystone Crusher & Roller Co.	37				
	Beckley, A. J., & Co.	37	Draper Machine Tool Co.	12	Kiechler Mfg. Co.	41				
	Bennett, H. R.	4	DureBra & Dublede.	6	Jenkins Bros.	44				
	Berryman, James.	*	Duckrow, R. A.	25	Jewell Belting Co.	11				
	Bertsch & Co.	22	Dufur & Co.	30	Jones & Laughlins.	16				
	Besly, C. H., & Co.	44	Dunning, W. D.	23	Johns, H. W., Mfg. Co.	31				
	Birmingham Boiler Works....	17	Durell, George B.	24	Johnson, W. C., & Sons Mch. Co.	25				
	Black Mfg. Co.	9	Dwiggins Wire Fence Co.	30	K	Keeler, E., Co.	16			
	Biliss Co., E. W.	30	E	Kelly, O. S., Co., The.	37					
	Boomer & Boschert Press Co.	23	Earl & Wilson.	24	Keystone Crusher & Roller Co.	37				
	Boston Belting Co.	10	Eccles, S., Jr.	*	Kiechler Mfg. Co.	41				
	Bradford Belting Co.	11	Egan Co.	29	L	Lambert Gas & Gasoline Eng. Co.	15			
	Bradford Mill Co.	12	Electrical Engin'ring & Supply Co.	43	Lambert Hoisting Engine Co.	16				
	Bradley Pulverizer Co.	37	Electro Gas Lighting Co.	9	Lane & Bodley Co.	14				
	Bradstreet Mercantile Agency.	40	Ellis & Helfenberger.	30	Lane Manufacturing Co.	28				
	Brickenstein, L. B.	6	Empire Paint & Roofing Co.	30	Larzelere Machine Co.	15				
	Brooks, T. H., & Co.	31	Erikson, Edward E.	6	Lathbury & Spackman.	6				
	Broomell, Schmidt & Co., Ltd.	18	Etting, Edward J.	24	Lawrence, W. W., & Co.	30				
	Brotherhood, F.	24, 25	Fay, J. A., & Co.	*	Lee Mfg. Co.	43				
	Brown-Bierce Co.	*	Featherstone's, John, Sons.	15	Lee, L. T.	24				
	Brown Cotton Gin Co.	35	Fifield Tool Co.	12	Lefel, James, & Co.	39				
	Brown Hoisting & Con. Mch. Co.	18	Fitz-Hugh & Co.	26	Leonard, Wm. Clement.	24				
	Buckeye Engine Co.	14	Foos Gas Engine Co.	15	Lewis, H. F., & Co., Ltd.	43				
	Buckeye Iron and Brass Works....	35	Foss Mfg. Co.	36	Lidgerwood Manufacturing Co.	18				
	Buffalo Forge Co.	44	Fairmount Machine Co.	32	Link-Belt Engineering Co.	10				
	Burr Manufacturing Co.	9	Farquhar, A. B., Co., Limited.	28	Litofuge Mfg. Co.	22				
	Burt Mfg. Co.	22	Farr Telephone Co.	43	Lombard Iron Wks. & Supply Co.	18				
	Bushnell, G. H., Press Co.	34	Fay, J. A., & Co.	*	Lowell Machine Shop....	34				
	Byers, Jno. F., Machine Co.	18	Featherstone's, John, Sons.	15	Lowell Textile School....	6				
C	Caldwell, H. W., & Son Co.	4	Fifield Tool Co.	12	Lucas, E. H.	25				
	Cameron, A. S., Steam Pump Wks.	38	Fitz-Hugh & Co.	26	Ludlow-Saylor Wire Co.	30				
	Cameron & Barkley Co.	36	Foos Gas Engine Co.	15	Ludlow Valve Mfg. Co.	18				
	Canfield Mfg. Co.	16	Foss Mfg. Co.	36	Lumbermen Supply & Equip. Co.	26				
	Capital City Machine Works....	35	Foster Machine Co.	24	Lyons Machinery Co.	25				
	Carboilium Wood Preserving Co.	27	Freese, E. M., & Co.	*	M	Madison, William A.	25			
	Carborundum Co.	21	French, Sam'l. H., & Co.	30	Main Belting Co.	6				
	Cardwell Machine Co.	34	Frick Co.	15, 25	Makepeace, C. R., & Co.	6				
	Carlins, Thomas, Sons	25	Fritsch, Arthur, Fdy. & Mch. Co.	37	Marine Iron Works....	9				
	Carnell, George.	12	Fuel Economizer Co.	*	Mariion Steam Shovel Co.	2				
	Caroline Iron Works....	36	G	Gardner Governor Co.	40					
	Carr, Stuart R., & Co.	10	Galt, John, & Sons.	31	Garrett, C. S., & Son.	31				
	Carson, C. M.	25	Gandy Belting Co.	11	General Electric Co.	42				
	Carver Cotton Gin Co.	32	Garrett, C. S., & Son.	31	General Fire Extinguisher Co.	6				
	Case Mfg. Co.	18	General Electric Co.	4						